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MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 1: Overview



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INTRODUCTION

1. **This Public Expenditure Review (PER) was prepared at the request of Mexico's Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público, SHCP*); its analysis of the efficiency, equity and impact of public spending in selected sectors is designed to inform Mexico's ongoing process of fiscal consolidation.** The Mexican government's hard-earned reputation for fiscal responsibility and sound macroeconomic management has provided a solid foundation for stability and growth. As Mexico strives to meet the challenges of a dynamic global economic environment, this PER is intended to support the government's efforts to adjust expenditure policies to better reflect the country's evolving macro-fiscal circumstances.

2. **Mexico faces a difficult global context marked by low oil prices, slowing growth in major emerging markets and a gradual, uneven recovery among advanced economies.** This is a critical time for Mexico's public finances. A steep decline in oil prices has diminished fiscal revenues, and current projections indicate that prices will remain low over the near term. Meanwhile, a combination of policy decisions, legal and constitutional obligations, and the complex exogenous pressures generated by an aging population is driving a long-term structural shift in the size and composition public spending.

3. **The PER is organized into two sections; the first focuses on overarching public expenditure management and cross-cutting policy issues.** Chapters 2 through 5 examine the national macro-fiscal profile, selected issues in fiscal decentralization, the budget process, the performance evaluation system and human resource management in the public administration. These chapters explore how a combination of revenue shocks and structural expenditure pressures is affecting Mexico's public finances and consider the implications of these trends over the medium term. They evaluate the extent to which federal budgetary inertia reflects sector-level policy commitments and describe how built-in expenditure rigidities can complicate the medium-term consolidation process. An analysis of expenditure dynamics at the subnational level focuses on strengthening the fiscal position of state and local governments and attenuating their dependence on federal transfers. Options for improving budget performance and evaluation mechanisms are presented as part of a broader agenda for alleviating budgetary inertia and enhancing the allocative efficiency of public expenditures.

4. **The PER's second section examines public spending at the sector level.** Chapters 6 through 12 each focus on a sector with especially significant fiscal implications: health; education; social assistance and labor market programs; subsidies for rural development, housing and small-businesses support; water and sanitation infrastructure; and public security. These sector-level analyses explore the combination of demographic trends and policy commitments that are driving a secular increase in both expenditure pressures and budgetary rigidities. The government's policy goal of achieving universal secondary education will permanently increase the education budget, while universal access to basic health insurance will drive a similar structural expansion in public spending on health, which will be compounded by the rising healthcare costs of an aging population. These same demographic trends will also intensify pressure on the social protection budget. The rapid expansion of the police and security services will entail significant long-term spending commitments, and the fiscal impact of accelerated hiring will be magnified by the incorporation of nearly half a million municipal police into the national police force. Taken together, these trends will greatly increase aggregate public spending in Mexico over both the medium and long term.

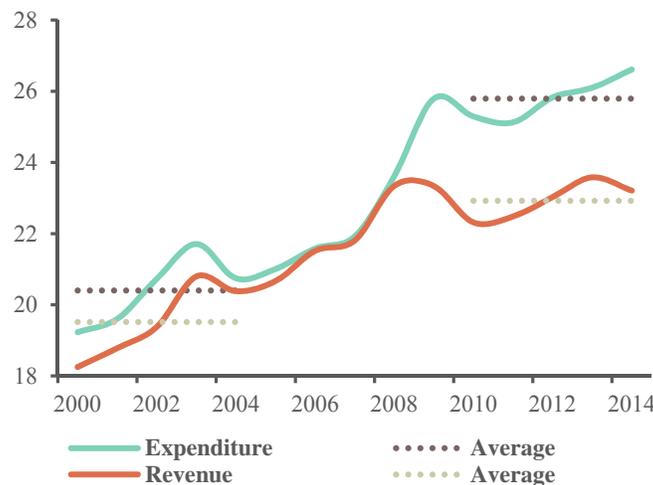
5. **The PER examines these diverse issues and sectors through the lenses of fiscal sustainability, expenditure efficiency and distributional equity.** Its objective is to provide a solid foundation for developing the short-term policy measures, medium-term fiscal reforms and long-term strategies necessary to bring Mexico's expenditure dynamics in line with its broader development objectives. This overview provides a brief summary of the issues addressed in each chapter and situates them within the broader analytical framework of the PER.

PUBLIC FINANCE AND EXPENDITURE MANAGEMENT

The Macro-Fiscal Profile

6. **Strong public revenue performance combined with deficit financing has enabled a substantial increase in public expenditures over the past decade.** Between 2004 and 2014 general government revenues rose by an average of 3.8 percent per year in real terms. During this period the economy expanded at a more modest annual average rate of 2.4 percent. As a result, general government revenues as a share of GDP increased from an average of less than 20 percent between 2000 and 2004 to an average of almost 23 percent over the past five years (Figure 1.1). Steady revenue growth facilitated a surge in public spending, which expanded at an annual average rate of 5 percent in real terms over the past decade. Public spending currently represents almost 26 percent of Mexico's GDP, up from just over 20 percent a decade ago.

Figure 1.1: Public Revenues and Expenditures, 2000-2014 (percent of GDP)



Source: World Bank staff calculations based on SHCP and INEGI

7. **These revenue and expenditure dynamics have led to a widening primary deficit, a substantial increase in public sector borrowing requirements (PSBR), and a steadily rising public debt-to-GDP ratio, underscoring the importance of fiscal consolidation.** Gross public sector debt reached 50 percent of GDP in 2014. The sustained increase in the public debt burden over the past seven years clearly indicates that a fiscal adjustment will be necessary to return the debt-to-GDP ratio to a level or downward-sloping path. Mexico's debt-stabilizing PSBR currently equal about 2.5 percent of GDP, and the most recent figures for 2014 imply that the necessary fiscal consolidation would equal at least 2 percent of GDP.

8. **A sharp decline in oil prices toward the end of 2014 prompted the Mexican government to announce significant spending cuts for 2015 and 2016.** Lower oil revenue in 2015 will be partially offset by a rise in income tax revenue following the 2013 tax reforms and by an automatic increase in the excise tax on fuels as a result of the fuel-pricing policy (Table 1.1). While these positive revenue effects are expected to continue through 2016, expenditure consolidation will still be necessary to maintain fiscal stability. The government's commitment to adhere to its Medium Term Fiscal Framework will require reducing the PSBR to 2.5 percent of GDP by 2018.

Table 1.1: Public Sector Revenue and Expenditures, 2014-2016 (% of GDP)

	2014	2015e	2016p	Change 2014-2016
Revenue	23.2	22.2	21.5	-1.7
Oil	7.1	4.6	4.5	-2.6
Tax	10.5	12.7	12.6	2.1
Income tax	5.6	6.6	6.5	0.9
Value added tax	3.9	3.8	3.8	-0.1
Excise tax on fuels	0.0	1.2	1.2	1.2
Excise tax other products	0.7	0.7	0.7	0.0
Other	0.4	0.4	0.4	0.0
Nontax	5.6	4.9	4.4	-1.2
Federal government	1.7	1.4	1.0	-0.7
IMSS/ISSSTE	1.7	1.8	1.8	0.1
CFE	2.1	1.7	1.6	-0.5
Expenditure	26.4	25.7	24.5	-1.9
Current	15.8	15.2	14.8	-1.0
Wage bill	6.0	6.0	5.9	-0.1
Pensions	3.1	3.0	3.2	0.1
Subsidies	2.5	2.3	2.5	0.0
Operating expenses	4.2	3.9	3.3	-0.9
Capital	5.2	4.6	3.7	-1.5
Physical investment	4.8	4.2	3.6	-1.2
PEMEX	2.1	1.7	1.5	-0.6
Other	2.7	2.5	2.1	-0.6
Financial investment	0.4	0.4	0.1	-0.3
<i>Participaciones</i>	3.4	3.6	3.5	0.1
Interest	2.0	2.3	2.5	0.5
Budget Balance	-3.2	-3.5	-3.0	0.2
PSBR	-4.6	-4.1	-3.5	1.1

e – estimated

p – projected

Source: World Bank staff estimates based on SHCP *Criterios Generales de Política Económica* 2016

9. **Taxes contributed the most to public sector revenue growth during the past decade, but there is still scope for further revenue increases.** Revisions to the tax regime in 2007, 2009 and 2013 eliminated exemptions, introduced new taxes and increased certain tax rates. These reforms, coupled with

improvements in tax administration, significantly boosted all three major sources of tax revenue, with income tax revenue leading the overall trend. Yet Mexico's overall tax burden remains relatively low, and there is substantial room for further tax policy reforms or improvements in tax administration. Expanding the VAT base, reducing tax incentives and strengthening tax collection by subnational governments could help to ensure that sufficient revenue is available to meet rising expenditure pressures and reinforce the sustainability of the country's overall fiscal stance.

10. **Oil plays a significant role in Mexico's public finances, but its fiscal importance is gradually diminishing.** Over the past decade high oil prices compensated for a gradual decline in the volume of oil production. Reversing this production trend will require a substantial infusion of new capital, and recent reforms will enable investments in the sector to be financed in partnership with private firms. Nevertheless, the fiscal importance of the oil sector is likely to continue declining, as oil prices are projected to remain low, new oil discoveries are expected to face higher production costs, and increases in production volume may not be sufficient to keep pace with the expansion of economic activity in the nonoil sectors.

11. **Accelerating domestic fuel-price liberalization by switching to a fixed per-unit excise tax would allow the authorities to lock in excise revenue at its current level.** The final domestic sales price of gasoline and diesel is administratively determined, and any change in the underlying international reference price is reflected in a variation in the excise tax on fuel. This policy has effectively insulated the budget against oil-price volatility, but at a high cost in terms of public revenue. This was especially apparent between 2006 and 2014, when high international oil prices caused the excise tax to become negative—i.e., a fuel subsidy. The recent drop in international oil prices turned the excise tax positive once again, and excise revenue offset about half of the decline in oil revenue. Reforms in the energy sector will open the retail fuel market, and fuel prices are expected to be fully liberalized by 2018. Policymakers could advance the liberalization process by switching the excise tax on fuel from a variable to a fixed per-unit amount and allowing the final sales price to fluctuate in line with international prices. This would lock in excise revenue at its current level of approximately 1 percent of GDP.

12. **Mexico's federal public sector expenditures have increased substantially, driven by a rise in social spending, public security and capital investment.** Mexico is experiencing a secular increase in public spending driven by a combination of policy decisions, demographic trends, technological change and other exogenous factors. This has resulted in a decade-long rise in health, education, social protection, infrastructure and public security spending, as well as a structural increase in capital costs in the oil sector as more easily accessible deposits are gradually exhausted. These trends are expected to continue over the long term, underscoring the importance of improving the efficiency and effectiveness of public expenditures.

13. **While this PER provides only a cursory look at pension reform,¹ additional measures will be necessary to reinforce the sustainability of the pension system while expanding coverage.** Recent measures have focused on managing the long-run fiscal cost of pension programs. However, inadequate coverage levels and significant differences in projected benefits between different cohorts raise concerns regarding the cost of the transition from defined-benefit to fully funded systems, as well as the equity and adequacy of future pension payments. Coverage could be expanded by incorporating non-contributory pensions into the national pension framework. Further adjustments could include raising the contribution rate, gradually increasing the retirement age, and taxing pensions like other forms of income, as is common in other OECD countries. Certain remaining defined-benefit pension regimes, including those offered by public enterprises, state governments and public universities, may require additional reforms to align benefits with contributions or changing labor market conditions.

¹ The issue of pension reform has been explored in detail in other World Bank and government reports.

14. **Budgetary inertia and rigidities are evident at both the aggregate and sector levels.** Legally mandated expenditures represent 60-70 percent of the budget, while another 20 percent is comprised of technically discretionary but effectively inflexible expenditures. Expenditure rigidity hinders the government's ability to reallocate resources in response to evolving priorities or to reflect impact assessments of existing programs. Unless the causes of budgetary inertia can be successfully addressed, future spending cuts may be heavily focused on a small share of effectively discretionary expenditures—including vital capital investments—as adjustments are likely to be based on political feasibility (cutting what can be cut) rather than economic efficiency (cutting what should be cut). A medium-term strategy to reduce the inertia of the budget should include both process reforms and legislative changes.

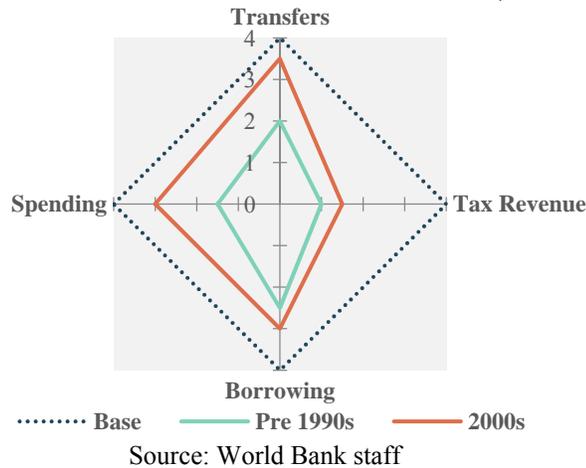
15. **To accommodate medium-term fiscal pressures, the rationalization of public spending will need to go beyond reductions in public investment and operating expenses.** The expenditure consolidation planned for 2015 and 2016 focuses on public investment and operating expenses, but a broader realignment in expenditure policies will be necessary to manage secular fiscal trends. This PER describes a number of prospective strategies for reforming sectoral expenditures and strengthening controls at multiple stages of the budget process. It also provides a detailed assessment of the statutory origins and economic justifications of different expenditure policies, which is designed to establish the analytical groundwork for increasing budgetary flexibility. Publishing detailed data on mandatory spending commitments and clearly defining their basis in legal, contractual and institutional obligations will be critical to limiting budgetary inertia, raising awareness of the impact of budget rigidities and encouraging legislative debate over a wider range of expenditures.

Fiscal Decentralization and Subnational Public Finances

16. **Fiscal decentralization plays a critical role in expenditure quality and budgetary sustainability in Mexico.** Throughout the 1990s both fiscal revenues and responsibility for the provision of key services, including elements of the education, health and infrastructure sectors, were progressively transferred to states and municipalities. In the 2000s the expansion of public education and health services, coupled with new demands on the country's social assistance and security institutions, further expanded the role of subnational governments. State and municipal authorities now execute roughly half of total spending, and strengthening their budgetary control and expenditure capacity will be critical to the broader objective of enhancing public expenditure management.

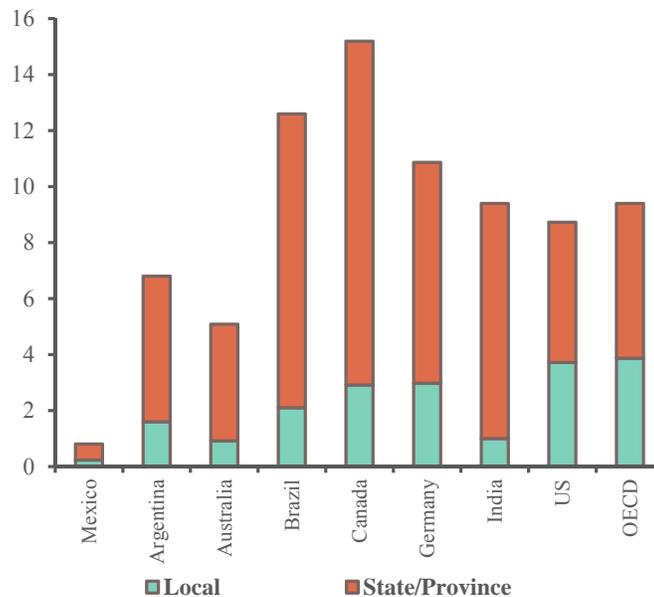
17. **Fiscal decentralization in Mexico has been asymmetric; the spending responsibilities that have devolved upon subnational governments have far outstripped their revenue capacity, and taxation remains heavily concentrated at the federal level.** The “fiscal decentralization diamond” (Figure 1.2) illustrates the four key dimensions of intergovernmental fiscal relations: taxation, spending, transfers and borrowing. The process of expenditure decentralization between 1990 and 2010 did not entail a corresponding decentralization in revenue collection. Instead, intergovernmental transfers became an increasingly large and vital component of the fiscal federalism framework, and subnational governments are now highly dependent on them. While subnational debt remains at relatively low levels, states and municipalities have increasingly turned to borrowing to finance their expenditures.

Figure 1.2: The Fiscal Decentralization Diamond, 1990-2010



18. **Mexico’s vertical fiscal gap is the largest among OECD countries.** While subnational governments are responsible for about 50 percent of total spending, they collect just 10 percent of total tax revenue. The federal government bridges this gap through a combination of automatic revenue-sharing transfers (*participaciones*) and earmarked transfers (*aportaciones*) designed to finance specific public services and advance national policy objectives. Together, these transfers represent around 30 percent of the federal budget, and their largely mandatory nature has made them an important source of budgetary rigidity. Subnational tax revenues remain very modest by international standards, reflecting a combination of limited tax authority and low collection efficiency. Subnational own-source tax revenues represent less than 1 percent of Mexico’s GDP, far below the average of 10 percent in other large federal republics and 9 percent in OECD countries. Even Latin American countries with very strong central governments tend to collect more tax revenue at the regional or local levels.

Figure 1.3: Subnational Tax Revenues in Selected Federations and OECD Countries, 2012 (percent of GDP)

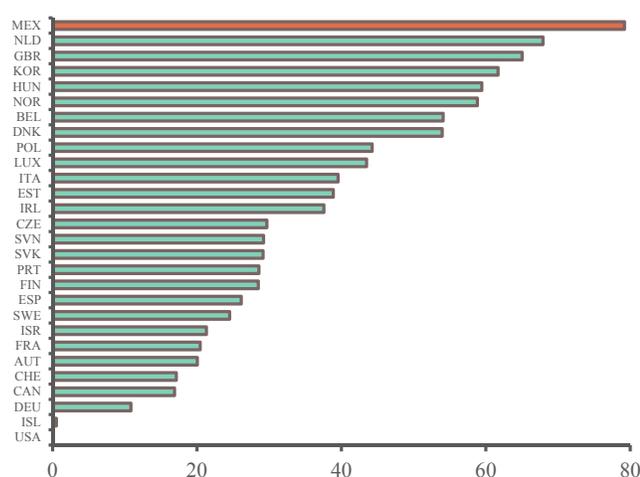


19. **Increasing subnational tax collection is feasible in the short term.** Greater collection efficiency for payroll taxes (*nómina*) and taxes on the use and ownership of motor vehicles (*tenencia*) could boost state revenues by 0.2 percent of GDP. There is also considerable scope for improving the collection of municipal property taxes (*predial*). Property taxes currently represent 0.2 percent of GDP in Mexico, well below the Latin American average of 0.6 percent. Over the medium term, expanding the tax base of subnational governments will enable them to increase service delivery without compromising their fiscal stability. Allowing state governments to establish a surcharge on the federal income tax or value-added tax would be among the least distortionary options for broadening the subnational tax base.

20. **The dominant share of transfers in subnational finances, as well as the complexity and fragmentation of the transfer system, discourages local revenue mobilization and undermines expenditure efficiency.** A large number of conditional transfers are earmarked for a specific purpose, and the allocation criteria for each individual transfer mechanism typically include multiple objectives, greatly increasing the complexity of the transfer system. Moreover, while revenues raised by the federal government in wealthier regions are transferred to poorer ones, the distribution formula for the largest revenue-sharing mechanism, *participaciones*, is not designed to achieve interregional equity. Similarly, the allocation criteria for most *aportaciones* do not reflect regional disparities in fiscal capacity or demand for public services. These factors negatively impact the quality of subnational spending and undermine accountability by weakening the connection between taxpayers and public agencies. Furthermore, the transfer system erodes incentives for own-source revenue mobilization among subnational governments, as relying on transfers is more politically expedient than improving local tax collection.

21. **The efficiency, equity and impact of intergovernmental transfers could be significantly improved by streamlining *participaciones* and reorienting the distribution of *aportaciones* to focus on demand- rather than supply-side factors.** Strengthening the fiscal-equalization effect of *participaciones*, simplifying their distribution formula and consolidating the 12 existing transfer mechanisms around a limited set of core objectives would enhance their effectiveness. Furthermore, the distribution criteria for earmarked transfers in education, health and social-service infrastructure should be defined by demand conditions rather than the number of federal teachers, schools, health workers and hospitals, or other supply-side criteria.

Figure 1.4: Vertical Fiscal Gaps among OECD Countries, 2011 (% of total spending)



Source: OECD and World Bank staff calculations

22. **Though it remains relatively low, Mexico's subnational debt burden has increased substantially since 2008.** In the wake of the global financial crisis the Mexican economy slowed dramatically, tax revenues fell, and federal transfers to subnational governments dropped by 20 percent. Faced with large mandatory spending obligations and a limited ability to increase own-source revenues, subnational governments turned to borrowing, and state-level debt rose from 1.7 percent of GDP in 2008 to 2.2 percent in 2010. This trend continued even as the effects of the crises subsided, and subnational debt reached 3.1 percent of GDP in 2013.

23. **The rapid growth of subnational debt is becoming a source of potential fiscal vulnerability.** Several states are already in need of debt-restructuring operations, and some would be eligible for restructuring under the forthcoming Fiscal Responsibility Law for Subnational Governments (*Ley de Disciplina Financiera de las Entidades Federativas y Municipios*, LDFEFM). Since 2013, seven state governments have signed debt-restructuring agreements with private banks based on fiscal adjustment plans agreed upon with the SHCP. As the existing indebtedness framework does not provide for the participation of the federal government in these agreements, public banks have participated indirectly by allowing the SHCP to influence the definition of fiscal targets for debt-restructuring operations.

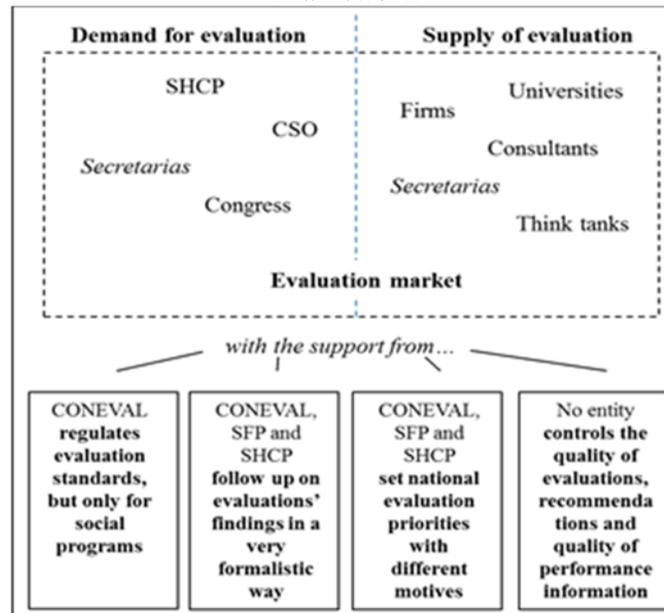
24. **In this context the federal government has decided to enhance the existing indebtedness framework by establishing hierarchical controls on subnational fiscal performance and indebtedness.**² The draft LDFEFM contains rules on: (i) fiscal balances linked to indebtedness indicators and other fiscal variables, including recurrent and personnel spending, as well as escape clauses; (ii) budgetary norms; (iii) rules for contracting debt, including short-term liabilities, and for the use of *participaciones* as collateral; (v) the establishment of a debt-sustainability alert system for subnational governments; (vi) requirements to record debt and other financial obligations in a public registry; (vii) sanctions for civil servants who fail to comply with the LDFEFM; and (viii) conditions under which the federal government can provide guarantees for subnational borrowing. The LDFEFM is expected to complement the market-based approach for subnational lending adopted in the early 2000s, and its effective implementation will be critical to ensure fiscal discipline at the subnational level.

The Performance Evaluation System

25. **The Mexican government has made significant progress in improving its system for evaluating the performance of public programs.** The routine production of performance evaluations has helped to promote a culture of assessment and accountability in the public sector, and public institutions are increasingly focused on results-based budgeting. The implementation of the Results-Based Budgeting and Performance Evaluation System (*Presupuesto Basado en Resultados y Sistema de Evaluación del Desempeño*) led by the Undersecretary of Expenditures (*Subsecretaría de Egresos*, SdE) in the SHCP is progressively integrating performance indicators into the budget process. The new system comprises both overall public sector performance monitoring and individual policy and program evaluations.

² In May 2015 a Constitutional Amendment was passed granting the central government the authority to regulate the finances and indebtedness of subnational governments.

Figure 1.5: Actors in Mexico’s National Evaluation Framework



Source: World Bank staff

26. **However, several lingering weaknesses in the performance evaluation framework limit its impact on expenditure efficiency.** These shortcomings can be divided into five general categories: (i) suboptimal institutional arrangements; (ii) the limited use of evaluation information; (iii) the irregular quality and relevance of evaluations; (iv) the narrow scope of evaluation efforts; and (v) significant gaps in the public financial management framework.

27. **Mexico’s public evaluation system suffers from a lack of coordination and an unclear division of roles and responsibilities among the three major agencies responsible for evaluations.** The legal framework governing evaluation policy is overly general and does not define specific functions for each agency, which allows excessive discretion among agencies with regards to evaluation mechanisms and remedial actions. For example, clear rules have not been established for selecting the types of evaluations to be conducted each year under the Annual Evaluation Program (*Programa Anual de Evaluación*, PAE). As a result, each steering agency has significant discretion to coordinate and define the PAE. This undermines the efficiency of the evaluation process, resulting in redundancies and coverage gaps.

28. **Most of the key functions of the national evaluation system are either shared among agencies or not covered by any specific institution.** The National Evaluation Council (*Consejo Nacional de Evaluación*, CONEVAL) has taken the lead in setting evaluation standards, adopting new tools and performing new types of evaluation. However, its scope is still restricted to social programs. The SHCP and the Ministry of Public Administration (*Secretaría de Función Pública*, SFP) are tasked with evaluating all other programs, but there is no clear division of roles between them. Responsibility for setting evaluation priorities and for following up on evaluation findings is shared between all three institutions. The SHCP may issue the guidelines that regulate the SdE with or without the participation of the SFP and CONEVAL.

29. **The limited coordination between the SHCP, SFP and CONEVAL creates deficiencies in the evaluation of public programs.** For example, there is no comprehensive monitoring and assessment tool for the Results Indicator Matrix (*Matriz de Indicadores para Resultados*). The SFP is legally responsible for reviewing program activities and components, whereas the SHCP focuses on strategic objectives and indicators. Both elements are critical to fully understand a program, but there is no formal link between

these complementary analyses, nor is there a formal mechanism for integrating both inputs into the budget process. While the system for creating a PAE is in place, the current allocation of responsibilities is not ideal, as the agency that conducts an evaluation should not also be tasked with following up on its findings. CONEVAL excels at implementing evaluations, developing analytical tools and indicators and providing training. Its focus should not be on operational issues, which it is not properly equipped to address.

30. **The quality of evaluations is uneven, the programs selected for evaluation are not always clearly relevant to policy priorities, and incentives are not well aligned with the objectives of the evaluation system.** Evaluation standards are neither consistent across agencies, nor reliably adhered to in individual cases. The preparation of the annual evaluation program does not involve the line ministries or agencies to be evaluated, and some evaluations are conducted solely to fulfill legal requirements. The timing of evaluations frequently reduces their usefulness, as evaluation results often arrive too late to influence budget decisions. The government has made substantial progress in establishing a framework for results-based programming and budgeting, and line ministries in particular have made a tremendous effort to institutionalize performance information. However, there is little evidence that performance information is directly linked to the budget cycle, and the use of evaluations varies considerably from one agency to another.

31. **Evaluations are almost exclusively devoted to analyzing federal programs and rarely review the effectiveness of broader national or sectoral public policies.** This focus on programs is in part the result of limited connectivity between the planning and budgeting processes. The preparation of strategic plans, such as the National Development Plan and sector development strategies, is largely separate from the annual budget process. Evaluations may inform the budget process, albeit subject to the caveats described above, but they are almost never used during strategic planning.

32. **Strengthening the framework for producing and evaluating performance information will be an important step in transforming the SdE into a fully functional results-based management system.** The current distribution of roles assigned by the SdE to different institutions has proven to be less than optimal. A more efficient allocation of responsibilities would help eliminate redundancies, address gaps in the evaluation framework, properly distinguish evaluation from auditing, and leverage the skills and competencies of each institution to maximize the effectiveness of the system as a whole. Evaluations are only effective if the information they produce is used to enhance policies and to improve, expand or eliminate programs.

33. **Relatively modest reforms could greatly improve the use of performance information in the budget process.** Evaluation agencies should adjust their calendars to ensure that evaluations are presented in time to inform the annual budget process, and performance information should be systematically integrated into the budget cycle. Line ministries should be more involved in determining evaluation priorities, as well as programs to be evaluated and the type of evaluation to be conducted. Line ministries and the SHCP should hold discussions on the areas for improvement identified in program evaluations. Finally, agencies should provide feedback to evaluators both during and after the evaluation process.

Human Resource Management

34. **Over the last five years the size of Mexico's federal government wage bill has remained moderate relative to both GDP and total expenditures, and its growth has been fiscally sustainable.** The federal government wage bill, which covers personnel spending for the executive, judicial and legislative branches, as well as autonomous entities (but not transfers to the states), comprised just over 10 percent of total federal spending in 2014. Between 2009 and 2014 the federal government wage bill increased at an annual rate of 2.6 percent in real terms, broadly in line with real GDP growth. A more

detailed analysis of expenditures in the executive branch, known as the federal public administration (*Administración Pública Federal*, APF), reveals a similar trend.

35. **Mexico’s personnel expenditures at the central government level are significantly lower than those of other federal republics such as Brazil, as well as the global averages for both middle- and high-income countries.** Mexico’s central government wage bill represents 2 percent of GDP and 10 percent of total expenditures. This is below both the middle-income country average of 7 percent and 24 percent and the high-income country average of 6 percent and 19 percent. Mexico also has one of the smallest public workforces in the OECD, and employment in the central government has been declining over time.

36. **While the total size of the federal wage bill appears appropriate to Mexico’s economic and institutional context, underlying issues involving the structure and remuneration of the public sector workforce constrain the ability of the APF to attract and retain qualified staff.** A recent decrease in total budgeted permanent compensation in the APF has had two distinct impacts on the employment structure. First, civilian central institutions endured the brunt of the budget cuts, while deconcentrated and parastatal institutions experienced more modest reductions. Second, base pay now represents a smaller share of total pay in central government agencies than it does in deconcentrated and most parastatal institutions (Table 1.2). Base pay also represents a smaller share of compensation for those at the lower end of the pay scale relative to the top. Base pay accounted for 37 percent of total permanent compensation in central institutions and 55 percent in deconcentrated institutions in 2014. The parastatal sector was more varied; base salaries in the national insurance and security deposit institutions represented as much as 66 percent of total permanent compensation, and this share increased by 11 percent between 2010 and 2014. These trends are important because base pay, not total compensation, determines future pension payments. As a result, differences in base pay can have a significant effect on both the long-term remuneration of civil servants and the future personnel costs of the public sector.

Table 1.2: Base Salary as a Percentage of Total Permanent Payments

Type of Administration	Government Sector	Base salary as a percentage of total permanent payments		
		2010	2014	Increase in Percentage (2010-2014)
Central	Central Institutions	30	37	7
Deconcentrated	Deconcentrated Institutions	42	55	14
Parastatal	Decentralized Institutions	25	29	3
	State Majority Shareholder SOEs	47	53	5
	National Credit Institutions	47	47	1
	National Insurance and Security Deposit Institutions	55	66	11
	Funds and Trust Funds	51	60	9
Overall Public Federal Administration (not weighted)		29	34	5

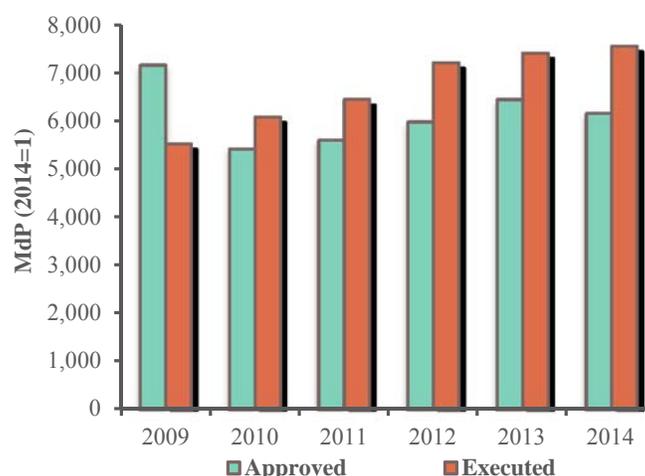
Source: Presupuesto de Egresos de la Federación, Tomo VIII Analítico de Plazas y Remuneraciones, Administración Pública Federal for 2010 and 2014. World Bank Staff calculations

37. **The modest growth of the wage bill masks an increase in the use of temporary personnel (*eventuales*).** The number of temporary employees is rising throughout the APF, and expenditure overruns on temporary contracts are becoming increasingly common. Between 2009 and 2014 total spending on temporary personnel rose by 25 percent, and while the approved budget for temporary workers decreased by 14 percent in real terms, the executed budget increased by 37 percent (Figure 1.6). Increased demand for temporary staff is partly the result of tighter controls on the creation of permanent positions, as well as the assignment of new mandates and responsibilities to federal institutions. However, an overreliance on temporary workers has potentially negative implications for the efficiency of the public administration, and

the use of temporary employees to perform staff functions represents a potential legal and financial liability for the government.

38. **Meanwhile, nonwage compensation has also increased significantly.** Benefits classified as “additional and special remuneration” grew by 23 percent between 2009 and 2014, driven by the expansion of seniority benefits and benefits subject to labor-union negotiations. Similarly, spending on incentive payments grew by 36 percent in real terms, with most of this increase going to administrative staff (*operativos*).

Figure 1.6: Budgeted vs. Actual Base Payments for Temporary Workers, 2009-2014



Source: World Bank staff estimates based on approved and executed budgets.

39. **A deeper analysis into the equity of pay across the APF reveals large salary differentials between certain levels of the central pay scale (*tabulador*) and between the central, deconcentrated, and parastatal institutions that comprise the APF.** Unionized administrative personnel at the top of their respective pay scales often come close to or exceed the remuneration of more senior liaison officer positions. This distortion can reduce incentives for civil servants to accept positions of greater responsibility. Conversely, middle management (*mando medio*) compensation levels offer much larger financial incentives to accept senior positions. Tighter wage bill policies have exacerbated these differences as central institutions have endured the majority of cuts in permanent compensation. Between 2010 and 2014 average federal budgeted remuneration by position in the APF declined by 10.5 percent in real terms. Central institutions experienced the most significant decrease (36.9 percent), followed by deconcentrated institutions (28.3 percent), while compensation in parastatals declined relatively modestly (12.3 percent).

40. **The government has made important efforts to improve transparency, but the limited accessibility and comparability of public payroll information continue to present significant analytical obstacles.** Compensation data are currently available via each institution’s online transparency portal, but there is no central database through which to analyze compensation at different levels of aggregation, and it is difficult to interpret the information without a detailed understanding of Mexico’s compensation structure. Information on total gross payments, which consists of both base salaries and guaranteed compensation, is available online, but while information is provided on the types of benefits applicable to employees, the monetary value of those benefits is not.³ Publishing the monetary value of

³ This is also the case for economic benefits (*prestaciones economicas*), social security benefits (*prestaciones de seguridad social*), and other benefits.

employee benefits would help improve the public's understanding of the total permanent remuneration received by civil servants.

41. **A sustainable compensation policy must be based on clearly defined objectives that advance the interests of both the government and public employees within an appropriate resource envelope.** Efforts to contain the growth of the wage bill should not exacerbate distortions by further incentivizing the use of temporary workers or widening disparities in the central pay scales. Asserting greater control over the temporary personnel budget would be an important first step in containing the growth of the wage bill. At the same time, marginally accelerating the attrition of administrative staff would enable the creation of new positions in the areas of greatest need. As most of the federal workforce is assigned to administrative roles, reintroducing the voluntary retirement program for administrative staff may create space to introduce new positions to fill identified skills gaps.

42. **The establishment of a centralized payroll database would significantly improve the availability of information.** A centralized payroll database would enable more frequent analyses of the federal workforce, enhance transparency, facilitate comparisons between budgeted and actual compensation, and provide the SHCP with more detailed and disaggregated information to inform its policies. In the short term the SHCP could request that spending agencies publish annual data on total permanent payments (*percepción ordinaria*) and extraordinary payments (*percepción extraordinaria*) via their respective transparency portals. Additionally, the SHCP could aggregate actual spending on permanent payments by different ministries and present a consolidated report comparing budget forecasts with actual compensation by position.

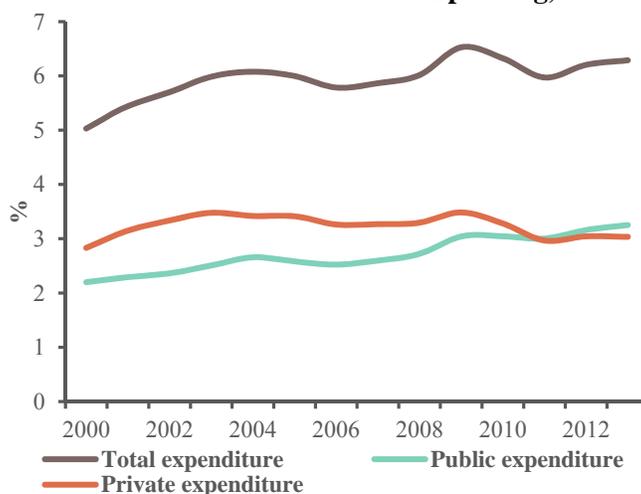
43. **Career progression and professionalization are important medium-term issues.** Policymakers should strive to professionalize higher levels within each administrative grade. Efforts should also be made to gradually move qualified employees from administrative to liaison officer positions. Finally, the government should continue to expand the coverage of the central pay scale and regularly review the competitiveness of public sector salaries. Expanding the coverage of the central pay scale would help reduce the large disparities in pay levels observed across different types of institutions (central, deconcentrated, and parastatal) in the APF.

GOVERNMENT SPENDING IN KEY SECTORS

Health

44. **While health outcomes in Mexico have improved significantly over the past several decades, they remain lower than those of comparable countries in Latin America and far below OECD averages.** Health spending as a share of GDP and healthcare utilization rates have also grown rapidly in recent years. The expansion of *Seguro Popular* has driven the recent growth of public expenditures on health; however, as the policy is now nearing full coverage of its intended beneficiaries, its contribution to overall expenditure growth is expected to moderate.

Figure 1.7: Trends in Total Public and Private Health Spending, 2000-2013 (percent of GDP)

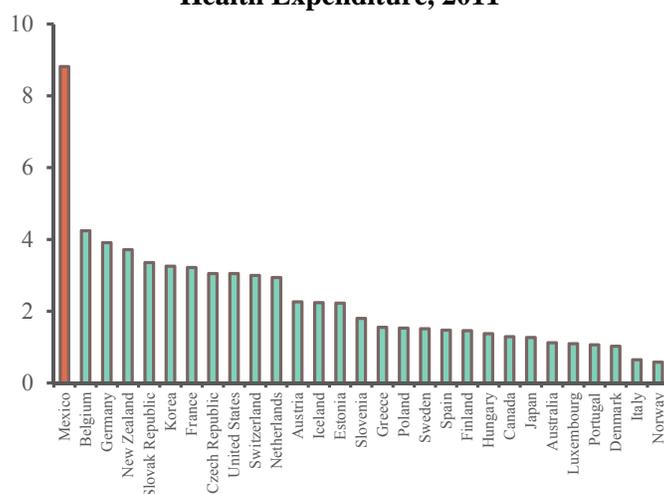


Source: SINAIS data and World Bank staff calculations.

45. **Mexico is facing a long-term structural increase in healthcare costs.** As the country's basic health indicators improve and the incidence of communicable diseases declines, morbidity rates for non-communicable diseases such as diabetes and cardiovascular disease are imposing an increasingly large burden on the health sector. The aging of the population is exacerbating these pressures and increasing demand for relatively costly forms of long-term care. Moreover, the development of new health technologies, the increasing prevalence of negative lifestyle factors (e.g. tobacco use, alcohol abuse, sedentariness), and the public's increasing demands for more and higher quality health services will continue to raise the trajectory of health spending. The combination of these trends underscores the urgency of reform measures, though the results of these efforts may not become apparent in the short term.

46. **Mexico's healthcare system includes multiple insurance schemes, each with its own parallel provider network, and the lack of coordination between them dramatically increases administrative costs.** The Mexican health sector comprises three major sub-systems: social security, social protection and the private system. Social security schemes are compulsory for formal salaried workers, and different schemes cover different types of employment. The largest social security schemes are the Mexican Institute of Social Security (*Instituto Mexicano del Seguro Social*, IMSS), and the Institute of Social Security and Services for Government Workers (*Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, ISSSTE). *Seguro Popular* is the main pillar of the Social Protection System in Health (*Sistema de Protección Social en Salud*). It was designed to universalize health insurance by making coverage available to all citizens not already covered by a social security scheme. Some government agencies and state-owned enterprises operate their own schemes, including different branches of the military and the national oil company. Each scheme has its own funding sources, insurance pools, administrative structures, financial reserves, and service provider networks, and affiliates are typically limited to in-network facilities and services, resulting in duplications and inefficiencies in the use of public resources. In 2012 health administration and insurance costs in Mexico represented an estimated 9 percent of total health spending, by far the highest in the OECD. Reducing administrative costs to the OECD average of 3 percent would generate savings equal to at least 0.15 percent of GDP.

Figure 1.8: Public Expenditure on Administration and Insurance as Percentage of Total Current Health Expenditure, 2011



Source: OECD, 2011 and World Bank staff calculations

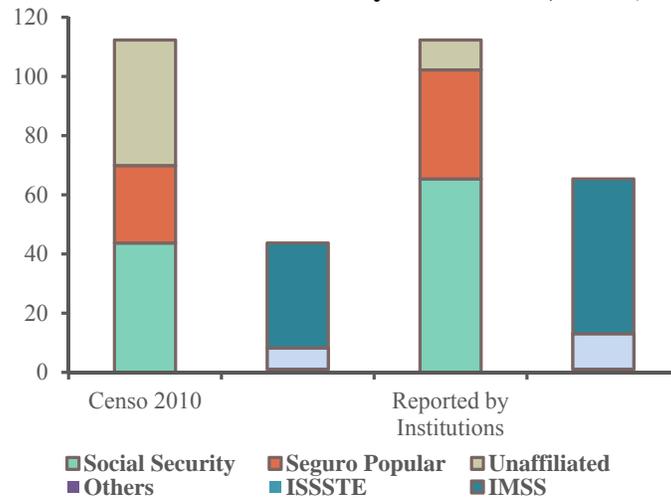
Note: The OECD classifies planning, regulation, revenue collection, and management of complaint mechanisms as administrative costs; among Mexico's social security schemes these functions apply to both health and non-health-related services

47. **The fragmentation of the healthcare system also contributes to unequal service delivery, expenditure inefficiencies and the suboptimal use of sectoral assets.** Each public insurance scheme offers different entitlements to its beneficiaries, resulting in highly uneven access to care that often exacerbates underlying socioeconomic inequalities. In addition, the current structure limits the ability of healthcare providers to exploit economies of scale or leverage the full value of human and physical capital. Moreover, the size and effectiveness of cross-subsidies between public health institutions are difficult to measure without a single comprehensive roster of beneficiaries.

48. **Better coordination between healthcare schemes could yield major efficiency gains.** In the short term, reciprocity agreements enabling the exchange of services between different healthcare schemes could maximize the effectiveness of healthcare facilities and infrastructure. The existing emergency obstetric care agreement could serve as a model for cross-scheme collaboration. Greater investment coordination between healthcare schemes could also increase the impact of future capital spending, potentially through a strengthened Master Plan for Infrastructure. In the medium-to-long term the authorities may wish to consider further structural reforms to consolidate the healthcare system.

49. **There are significant beneficiary overlaps and inconsistencies across insurance schemes.** The available data indicate varying coverage levels for different schemes. Figure 1.9 shows each scheme's beneficiaries in 2010 as recorded in the reports of the respective institutions and in the 2010 census. The observed differences in the census data may be due in part to self-reporting errors, and institutional records also suffer from serious data limitations. The social security schemes provide reliable data on the number of contributing workers, but this does not necessarily extend to the number of covered dependents. Without a comprehensive roster of beneficiaries duplication is common, and actual coverage levels cannot be accurately assessed. In 2014 the Health Secretariat reported that about 6 million people were covered by both IMSS and *Seguro Popular*, 1 million by IMSS and ISSSTE, 800,000 by *Seguro Popular* and ISSSTE, and 85,000 by *Seguro Popular*, IMSS and ISSSTE. In 2014 the federal government transferred MXN 2,370 to the states for each *Seguro Popular* beneficiary, including the social and federal solidarity quota.

Figure 1.9: Health Insurance Beneficiaries by Data Source, 2010 (millions of people)



Source: CONEVAL, 2013 and World Bank staff calculations

50. **Eliminating beneficiary duplication could yield important fiscal savings.** Eradicating duplications in *Seguro Popular* coverage alone could have saved an estimated MXN 16.3 billion, or 0.1 percent of GDP, in 2014. Eliminating IMSS and ISSSTE duplications could generate additional savings equal to an estimated 0.03 percent of GDP, though this would require amending the current legislation, which allows individuals to be simultaneously insured by both schemes. A unique roster of beneficiaries will be critical to this process. The government is attempting to create such a roster by consolidating and cross-referencing beneficiary information from various health insurance schemes. However, this project is still in its early stages, and the roster has not yet been used to eliminate redundant payments.

51. **The inadequate integration of financing and service provision reduces efficiency within each health insurance scheme.** The current financing system inhibits strategic purchasing, which reduces the marginal value of healthcare spending. In addition, provider payment mechanisms are not linked to results. Instead, they continue to be based primarily on historical budgets, offering little or no incentive to contain costs or improve service provision.

52. **Measures to curb the excessive use of counter-indicated services could increase the efficiency of public health spending while also enhancing patient care.** For example, Mexico has the second-highest rate of Caesarean sections (C-sections) in the OECD, and there is no clear medical justification for the prevalence of C-sections. Although appropriate in certain cases, C-sections involve a major surgery and are associated with higher rates of complications and maternal re-hospitalization. In addition to their substantial health and safety risks, hospital costs for C-sections are significantly higher than for normal deliveries, and in some cases up to twice as high.⁴ Lowering Mexico's rate of C-sections to the OECD average could have saved about MXN 3.13 billion, or 0.02 percent of GDP, in 2012 alone.

53. **Reducing disparities in service quality across insurance schemes and states could further improve expenditure efficiency.** There is a great deal of heterogeneity in the quality of healthcare services in Mexico. Within each health insurance network certain providers perform far better than others. Harmonizing performance by promulgating best practices and strengthening oversight systems to ensure that providers follow clinical guidelines—particularly regarding early detection and control of chronic

⁴ The service fee for C-sections in the 2014 agreement for the integration of emergency obstetric care was MXN 16,328, while the fee for a natural delivery was MXN 8,381. However, these numbers may not fully reflect the actual costs for all healthcare providers.

conditions—could not only improve the quality of care, but also reduce costs by lowering the rate of complications and discouraging the use of counter-indicated services. However, given the Mexican healthcare sector’s poor performance to date in the detection and control of chronic diseases, effecting a major systemic change will require substantial investments in improving service quality and fostering coordination between healthcare providers.

54. **In the short term consolidating procurement could slash marginal costs in some of the country’s fastest-growing expenditure categories.** In 2014 consolidated pharmaceutical procurement yielded an estimated savings of 0.03 percent of GDP. However, even the “consolidated” process still involves 10 discreet mechanisms, and the system remains largely confined to pharmaceuticals. Further refining the process and expanding it to other forms of procurement could permanently decrease the structural cost of providing healthcare services.

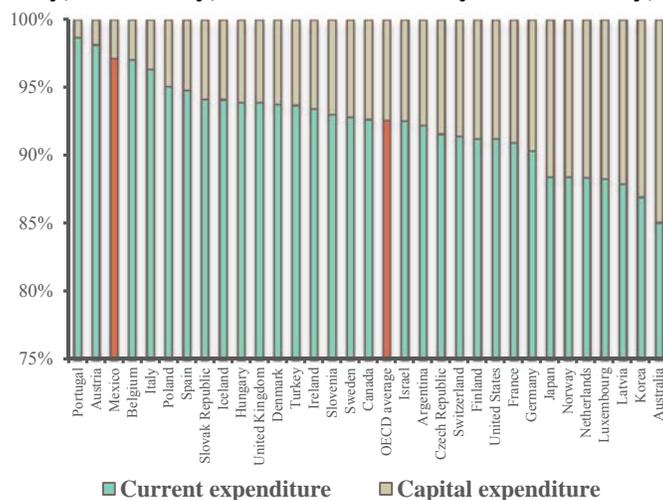
Education

55. **Mexico’s public education system is the country’s largest single employer and accounts for the greatest share of public expenditures of any sector.** In light of projected demographic trends, the constitutional mandate to universalize secondary education, and the increasingly sophisticated human capital demands of the evolving Mexican economy, the coming decade will see an unprecedented expansion in education coverage coupled with a sector-wide shift toward the secondary and tertiary levels. Combined, these factors are expected to generate a significant long-term structural increase in the cost of education, both in aggregate and marginal terms. As similar trends drive expenditure growth in the public health and social protection sectors, enhancing value for money in education spending will no longer be merely a desirable policy objective, but a fundamental imperative to support the fiscal sustainability of the sector.

56. **Intensifying the impact of education spending is more than a matter of fiscal necessity, it is also critical to the growth and competitiveness of the Mexican economy.** To achieve the government’s broader development objectives, the planned expansion in education coverage will need to be combined with a deep and sustained increase in education quality, as additional years of schooling have little impact on long-term economic growth unless accompanied by significant improvements in educational outcomes. Moreover, the inadequate quality of education spending has important equity implications, as persistent differentials in educational attainment threaten to exacerbate existing social and economic inequalities.

57. **The composition of education expenditures is heavily focused on current spending.** This is particularly acute at the secondary level, where large and increasing current expenditures crowd out investment in the equipment, facilities, information technology and modern infrastructure necessary to improve education quality and keep pace with the evolving labor demands of a growing economy. Moreover, achieving the government’s objective of universal secondary education will require a substantial increase in the capital budget to construct and equip new schools, and increased secondary enrollment will permanently raise the per-student cost of education spending.

Figure 1.10: Distribution of Current and Capital Expenditure on Educational Institutions: Primary, Secondary, and Post-Secondary Non-Tertiary, 2011

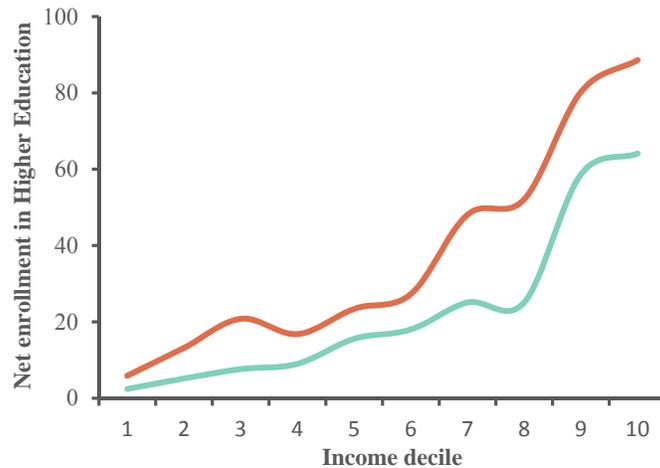


Source: OECD and World Bank staff calculations

58. **A recent teacher census highlighted key issues of transparency and accountability in the education payroll.** A convoluted state and federal system for managing the teachers’ payroll has greatly intensified expenditure pressures and contributed to the dominant share of current spending. In 2014, after several reform attempts failed to correct compensation distortions or mitigate wage pressures, the government re-centralized the teachers’ payroll, and teacher salaries are now primarily financed by the federal government through the Fund for Education Payroll and Operating Expenses (*Fondo de Aportaciones para la Nómina Educativa y Gasto Operativo*, FONE). Under FONE, wage negotiations will take place at the federal level, and the federal government will exert greater control over the teachers’ payroll. State governments will receive a set of compensation guidelines for state teachers, and salary increases will need to be financed by states’ own-source revenues. Re-centralization is also expected to strengthen administrative oversight and minimize perverse incentives. Auditing the education payroll would further help to eliminate ghost workers and double dippers and curb teacher absenteeism. The potential savings from the re-centralization coupled with enhanced control over the teachers’ payroll could amount to 0.2 percent of GDP.

59. **Mexico’s current education spending patterns exacerbate existing socioeconomic inequalities.** Incidence analysis shows that the distribution of spending between the primary, secondary and tertiary levels in Mexico is less progressive than those of its regional comparators. The low efficiency and limited coverage of secondary education contributes to the uneven distribution of education services and perpetuates broader socioeconomic inequalities. Education spending is largely directed toward urban centers, and urban schools exhibit significantly better outcomes than their rural counterparts. Over time, this disparity is widening the economic gap between Mexico’s urban and rural areas. Marginal spending on tertiary education is far larger than either primary or secondary, and the progressive distribution of public education spending at the primary and secondary levels is largely erased when the tertiary level is included. While tertiary education is intrinsically expensive, and its distribution is almost always regressive, it appears that tertiary spending in Mexico is becoming increasingly regressive over time. Finally, the allocation of investment in school facilities, teacher training and educational supplies across states compounds Mexico’s already substantial regional inequalities.

Figure 1.11: Net Enrollment Rate in Higher Education by Income Decile, 2000 and 2012



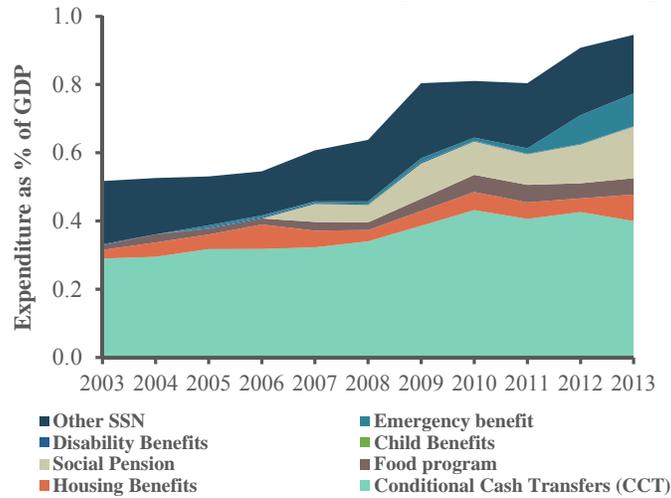
Source: World Bank staff calculations based on ENIGH data

60. **Most elements of the education reform program are achieving positive results, especially initiatives related to teacher evaluation, school autonomy and the establishment of reform schools (*escuelas de la reforma*).** One notable exception is the introduction of all-day schools (*escuelas de tiempo completo*), which have yielded mixed results and proven costly. Efforts to increase the quality of teaching, as measured by “time on task”, could prove more cost-effective than extending the school day. Increasing the quality of education spending could enhance the equity of educational outcomes, and investment in secondary education facilities combined with efforts to reduce the secondary dropout rate would alleviate disparities in achievement at both the secondary and tertiary levels.

Social Assistance and Labor Programs

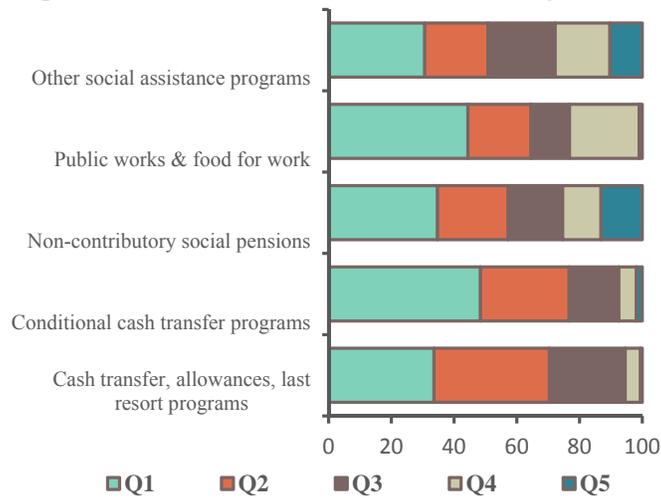
61. **Mexico spends less than 1 percent of its GDP on social assistance and labor market programs, but this share has doubled in the last decade.** Social assistance programs are generally well-targeted, and Mexico’s social assistance framework is estimated to have reduced the poverty rate by 3 percentage points over the counterfactual, from 23 percent to 20 percent. Active labor market programs and productive inclusion programs, however, are not well targeted, and their impact on poverty has been marginal.

Figure 1.12: Expenditures on Social Assistance Programs as a Percentage of GDP, 2003-2013



Source: World Bank staff calculations based on data from the Social Protection Database and public accounts

Figure 1.13: Distribution of Beneficiaries by Quintile



Source: World Bank staff calculations using AdePT

62. **Similar to the trends observed in the health sector, Mexico’s aging population will put increasing pressure on different elements of the social protection system.** The demographic transition will increase pension costs, as the elderly represent a growing share of the population, while also boosting demand for programs geared toward working-age adults, such as labor market and social assistance programs. These trends will intensify structural expenditure pressures over the medium-to-long term.

63. **The proliferation of social assistance and labor market programs is increasing systemic costs without generating a corresponding improvement in outcomes.** Mexico’s large number of social assistance programs has resulted in a significant degree of duplication, redundancy and fragmentation, which reduce the effectiveness and efficiency of the social protection system. Federal and state social programs often have overlapping beneficiaries. A 2013 analysis of social programs in the State of Oaxaca found that the sum of all state and federal cash transfer beneficiaries was greater than the state’s total population. Twenty-three state and local cash transfer programs focus on the elderly alone, and many of these overlap with the recently expanded Pension for the Elderly (*Pensión Para Adultos Mayores*), a federal

program that represented 0.21 percent of GDP in 2014. Targeting effectiveness is inconsistent, and some programs suffer from significant leakages to upper-income groups (Figure 1.13). Eliminating these leakages could generate savings equal to 0.1 percent of GDP.

64. **Creating a single registry of beneficiaries would improve the overall targeting efficiency, coverage and coordination of the social protection system.** The development of this registry corresponds with similar recommendations in the public health and education sectors. All of these efforts would be greatly facilitated by the establishment of a national identification system, which would allow cross-checks between federal, state and local records. The international experience suggests that such a system could reduce program costs by up to 10 percent through improvements in targeting efficiency.

65. **In addition, policymakers should carefully review existing social assistance and labor market programs and begin a process of consolidation.** Highly effective programs could be scaled up, while underperforming programs could be eliminated, and programs with similar objectives could be consolidated to leverage economies of scale. The relatively large Program for Direct Assistance in Agriculture (*Programa de Apoyos Directos al Campo*, PROCAMPO), does not appear to have a significant impact on either poverty or inequality, and its effectiveness should be analyzed in greater detail.

66. **The 2016 budget proposal already reflects the government's efforts to consolidate certain programs.** The SHCP has altered the 2016 budget to restructure several programs with the aim of reducing the budget by 4.3 percent in real terms from its 2015 levels. Nine labor market and social security programs will be consolidated into 3, 9 social assistance programs will be consolidated into 4, 1 program will be eliminated and 1 will be transferred from the Ministry of Economy to the Ministry of Social Development. These changes are a positive step toward rationalizing social programs and enhancing their administrative and budgetary management. However, further consolidation efforts will be necessary and should be grounded in a formal national policy. This is especially important for programs aimed at increasing the productivity of small businesses and entrepreneurs.

67. **Further reforms should be based on the findings of program evaluations.** As described in Chapter 4, the Mexican government regularly analyzes social programs, but this information is not always used effectively. Managers sometimes draw on evaluation results to improve program operations, expand coverage or enhance targeting. However, evaluations rarely provide a basis for strategic policy decisions at the sector level, nor do they inform the budget process. CONEVAL's latest Expenditure Considerations (*Consideraciones Presupuestales*) report would provide a sound starting point for a comprehensive review of social protection policies.

Subsidies for Productive Inclusion

68. **Mexico allocates a larger share of its budget to economic development than most comparable countries.** Mexico's government devotes roughly 36 percent of its total expenditures to economic affairs, far above the OECD average of 12 percent. The category of "economic affairs" encompasses spending on all economic sectors, as well as entrepreneurship programs, labor market programs and support to specific industries and types of firms (e.g. small and medium enterprises). Housing and urbanization programs are also included under economic affairs, as they drive growth in the construction sector. Meanwhile, social development expenditures, including public health, education and social security, represent 52.2 percent of the budget, well below the OECD average of 67 percent. The remaining 11.8 percent of Mexico's budget finances all other aspects of public administration, almost half the OECD average of 21 percent.

69. **Rural and urban development and programs to promote firm productivity play a particularly important role in Mexico's economic spending.** Depending on how they are defined, agriculture and rural development programs have represented between 0.5 and 2 percent of Mexico's budget over the past

decade, similar to the 0.8 to 2.4 percent observed in other OECD countries. However, housing and urban development represents almost 7 percent of Mexico's budget, more than double the maximum level of 3 percent among advanced OECD economies. And while internationally comparable data on entrepreneurship, small business, and research and development (R&D) support are difficult to obtain, the available evidence indicates that Mexico's spending is high relative to its peers. In 2013 Mexico spent around 1 percent of the budget on just two institutions dedicated to entrepreneurship and R&D.

70. Mexico provides numerous subsidies for agricultural and rural development programming, but the statistical evidence does not show a correlation between these programs and productivity improvements. The Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (*Secretaría de Agricultura Ganadería, Desarrollo Rural, Pesca y Alimentación*, SAGARPA) leads the implementation of the sector development plan, but more than half of all agricultural and rural development spending is executed via the complementary Special Concurrent Program (*Programa Especial Concurrente*, PEC). In addition, a number of ministries have an “agriculture function,” which encompasses a wide range of programming designed to improve quality of life in rural areas, address the needs of marginalized communities, or strengthen the productive capacity of the rural labor force. The PEC budget, which totals 1.9 percent of GDP, is distributed across a staggering 162 programs. SAGARPA's budget, equal to 0.56 percent of GDP, is divided among an additional 35 programs, and the “agriculture function” of other ministries represent 0.65 percent of GDP spread over 58 programs. Due to the large number of programs and the partially overlapping budgets of the PEC, SAGARPA and other ministries, estimating total agricultural and rural development spending requires identifying all public policies and programs that materially benefit the rural sector and then working backwards to reconstruct the sector's budget. The available data indicate that agricultural subsidies are focused on areas of higher poverty, and both their relative and absolute incidence seems to be pro-poor. However, there is little evidence of a statistical association between the allocation of subsidies and changes in either total agricultural output or marginal productivity, which has remained broadly stagnant over the past decade.

71. The fragmentation of rural and agricultural development programs heightens the risk of beneficiary duplication, administrative redundancies and financing leakages. Large budget allocations for rural and agriculture development, more than half of which are delivered through the PEC, may not be accurately classified as rural development expenditures. In addition, a substantial share of SAGARPA programs are not subject to impact evaluations. Thorough evaluations will provide a basis for expanding the most successful programs and eliminating the least effective.

72. Mexico's extremely numerous rural and agricultural development programs should be consolidated, and ineffective programs should be phased out. The programmatic structure of rural and agriculture development programs should be redesigned in order to better observe, quantify and evaluate their impact. All consolidated programs should be subject to regular mandatory evaluations, and their continued existence should be contingent on their proven effectiveness.

73. The analysis of housing assistance presented in the PER focuses solely on federal subsidies for social housing. Housing policies implemented through public financial institutions—rather than through the government itself—do not directly impact the annual budget and are therefore beyond the scope of the PER. Moreover, altering these policies would require reforms that extend well beyond the federal budget law, encompassing changes to social security laws as well as mandatory payroll contributions to public financial institutions.

74. The most important federal subsidies to social housing represent a small share of total spending on housing and community services. In recent years spending on social housing subsidies has ranged from MXN 14.8 billion in 2013 to MXN 21.2 billion in 2014, or between 7 and 9 percent of the budget for housing and community services. Overall, these subsidies average about 0.5 percent of the total

federal budget. Most of the housing and community services budget finances investment in urban infrastructure, and subnational governments spend additional resources on urban development under *Ramo 23*.

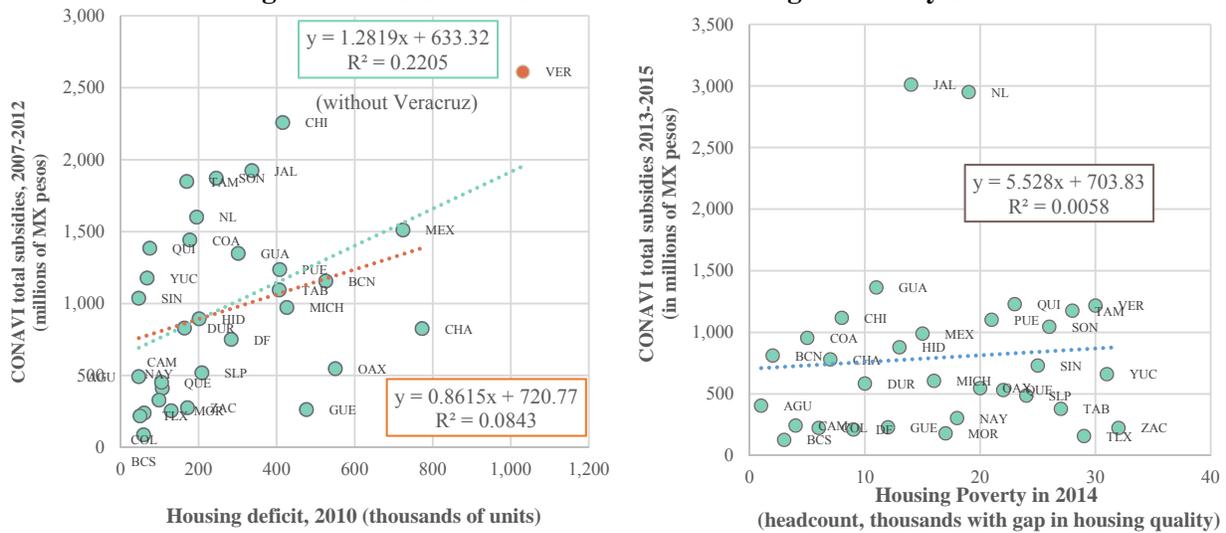
75. **Since 2012 social housing subsidies have been concentrated in three main programs.** This is Your Home (*Esta es Tu Casa*) is provided by the National Housing Commission (*La Comisión Nacional de Vivienda*, CONAVI), while Decent Housing (*Vivienda Digna*) and Rural Housing (*Vivienda Rural*) are provided by the National Trust Fund for Social Housing (*Fondo Nacional de Habitaciones Populares*, FONHAPO). CONAVI's *Esta es Tu Casa* program concentrates on households with incomes equal to less than five times the minimum wage, while the two FONHAPO programs focus on impoverished areas and marginalized communities. In addition, the High-Priority Zones Program (*Programa de Atención a Zonas Prioritarias*) operated by the Ministry of Social Development (*Secretaría de Desarrollo Social*, SEDESOL), provides subsidies to households that suffer from low housing quality, lack access to basic services or are located in areas with high rates of poverty. Half of all housing subsidies go to *Esta es Tu Casa*, and half is split between the other three programs.

76. **Unlike rural development programs, the limited number of housing subsidies, their small budgetary size and the well-designed rules that govern their operations appear to effectively prevent beneficiary duplication and minimize leakages.** *Esta es Tu Casa* subsidies mostly benefit households in moderate poverty, as well as some in the lower middle class, whereas the other three programs effectively reach households in extreme poverty. The latter allocate most of their resources to areas with high concentrations of poor and extremely poor households, which appears to be an effective targeting strategy. Mexico's housing subsidy programs regularly achieve 80 percent or more of their annual output targets, and some, particularly *Vivienda Rural*, frequently surpass their targets. However, this could also indicate that the targets themselves are too modest, or that the program budgets are so limited that more output cannot be reasonably expected.

77. **Despite their targeting efficiency there is limited evidence that housing subsidy programs have reduced the housing deficit, either nationwide or in poor areas specifically.** Indeed, some states that are home to a large share of extremely poor households receive fewer housing loans and have experienced an increase in their housing deficits. Meanwhile, states with fewer poor households have enjoyed both a large influx of housing loans and a swift reduction in the housing deficit. CONAVI subsidies are associated with a marginal reduction in the housing deficit, and this reduction has a limited pro-poor incidence. The very modest impact of social housing policy is due to the fact that changes in the housing deficit, or in access to housing subsidies, are only tenuously linked to the volume of housing loans, while access to subsidies is closely tied to formal employment rather than poverty status. FONHAPO and SEDESOL programs are positively correlated with reductions in housing poverty and in the share of the population living in extreme poverty.

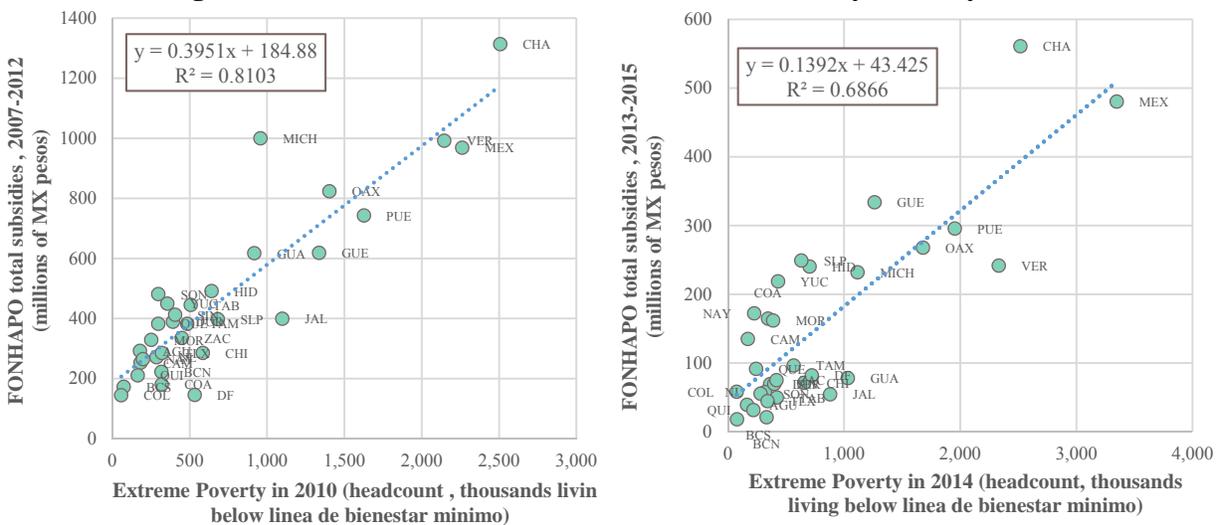
78. **The government should continue to focus on urban development in order to maximize the effectiveness and pro-poor orientation of social housing subsidies.** Urban planning problems, including issues with public security, access to utilities and transportation, and the distribution of employment opportunities, are creating serious distortions in the housing market that subsidies alone cannot resolve. Moreover, there is limited evidence that the provision of subsidies is increasing the number of housing loans or reducing the housing deficit, particularly in poorer areas. Formal-sector employment remains the principal driver of residential construction and mortgage lending, and the inverse correlation between poverty incidence and formal employment diminishes the pro-poor impact of housing subsidies.

Figure 1.14: CONAVI Subsidies and Housing Deficits by State



Source: World Bank staff calculations using SNIIV

Figure 1.15: FONHAPO Subsidies and Extreme Poverty Rates by State



Source: World Bank staff calculations using SNIIV

79. **Since the 1990s the Mexican government has pursued initiatives to support the growth of small and medium enterprises (SMEs).** The 2015 budget allocated MXN 20.3 billion, or 0.57 percent of total spending, to SME support programs. A relatively simple institutional system for managing the portfolio of SME programs facilitates coordination and leverages complementarities. Since 2013 two institutions have overseen the majority of SME programs, the National Institute of Entrepreneurship (*Instituto Nacional del Emprendedor*, INADEM) and the National Institute of Economic Solidarity (*Instituto Nacional de la Economía Social*, INAES),⁵ both of which are independent from the Ministry of Economy. INADEM manages 45 percent of the SME support budget, while INAES manages 11 percent.

⁵ INADEM and INAES inherited the roles of the Undersecretary for SMEs (*Subsecretaría para la Pequeña y Mediana Empresa*) and the National Fund for Solidarity Enterprises (*Fondo Nacional de Apoyo para las Empresas en Solidaridad*), respectively. However, their institutional arrangements and programmatic approaches differ from those of their predecessors.

80. **Most of the SME support budget is allocated to subsidies.** In 2015 these subsidies amounted to MXN 17.8 billion, or just over 80 percent of the total budget for SME support. The budget for SME subsidies increased between 2012 and 2014, and spending on the largest program, the National Entrepreneurship Fund (*Fondo Nacional del Emprendedor*) rose from MXN 6.9 to 10.2 billion. SME support programs have been consolidated over time, and in 2014 the three largest programs represented 89 percent of the total budget.

81. **There is no statistical correlation between formal-sector employment creation and the allocation of SME support subsidies by state.** However, the time period under analysis may be too short for a clear correlation to emerge. Moreover, most of these programs have objectives that extend well beyond formal employment creation, and their overall impact may not be fully captured by the analysis. These programs are also quite small relative to the size of the economy, and any number of unconsidered variables could obscure their impact. Nevertheless, the preliminary evidence indicates that the major SME subsidy programs are not clearly linked to formal employment creation at either the national or state levels.

82. **Support for small-scale entrepreneurship should focus on overcoming market failures and equity constraints that prevent self-employed entrepreneurs from growing their businesses or increasing their profit margins.** Most current programs suffer from a lack of clarity in their target populations, development goals and performance indicators. The government is currently redesigning and reorganizing many of these programs, and future evaluations should help to shed light on their effectiveness in terms of promoting employment and entrepreneurship, as well as advancing social protection and social development objectives.

Water and Sanitation

83. **Mexico's water supply and sanitation (WSS) sector is governed by a complex and highly fragmented institutional structure, in which responsibilities and resources are simultaneously delegated, executed, and transferred across agencies at the federal, state and municipal levels.** The Mexican Constitution and the National Water Law (*Ley de Aguas Nacionales*, LAN) assign WSS responsibilities to multiple levels of government. Under the Constitution municipalities are responsible for providing water supply, drainage, sewerage, water treatment, and wastewater disposal services. Municipalities can provide these services directly via a centralized public directorate (*dirección* or *dependencia*), indirectly through decentralized entities known as “operators” (*organismos operadores*), or they can transfer responsibility to a dedicated civic organization, which is common in smaller localities. In 2014 Mexico had 2,683 economic units dedicated to the provision of public WSS services.

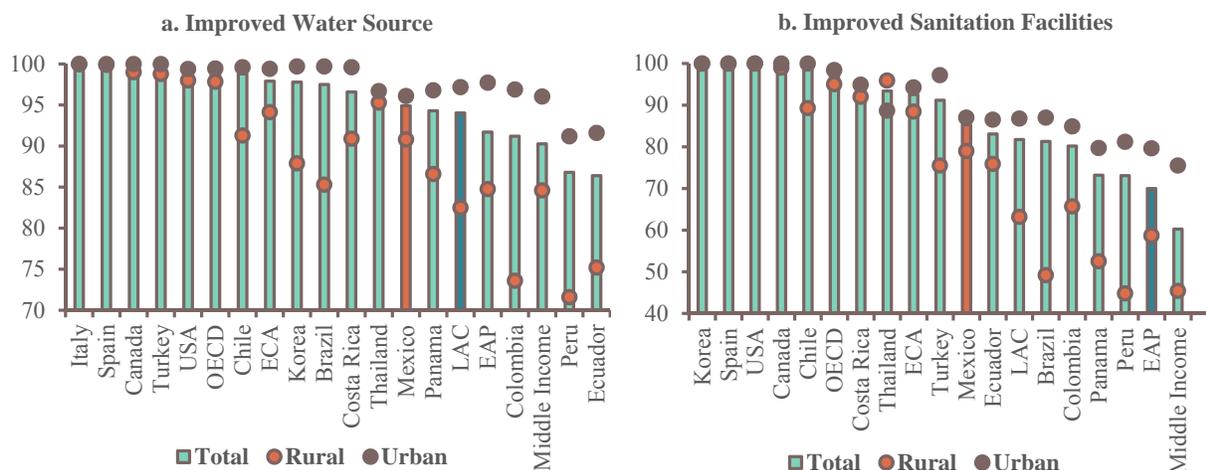
84. **In contrast to the decentralized and highly fragmented institutional arrangements for service provision, almost all funding for WSS infrastructure investment is provided via the National Water Commission (*Comisión Nacional de Aguas*, CONAGUA), and the sector is heavily dependent on federal resources.** The LAN vests CONAGUA with two core responsibilities: (i) the promotion and support of WSS services and (ii) the development of WSS systems in coordination with states and municipalities. While the Constitution tasks municipalities with providing WSS services, the LAN entrusts CONAGUA with “supporting the development” of the sector. However, neither document clearly defines responsibilities for financing and executing projects. The widespread assumption is that municipalities are supposed to take the lead in identifying, designing and implementing projects, with state and federal governments playing a more limited and subsidiary role.

85. **Federal WSS funds are allocated through programmatic budget lines and distributed to municipalities through their respective states.** The states serve as intermediaries, consolidating infrastructure investment proposals from municipal authorities and maintaining an open dialogue with

CONAGUA in order to negotiate for federal programmatic resources. Moreover, it is not uncommon for states to supplement federal WSS transfers to municipalities with their own resources.

86. **Mexico’s water and sanitation indicators are broadly in line with Latin American averages.** However, the country lags behind top regional performers such as Costa Rica and Chile, as well as OECD comparators—particularly in terms of access to improved sanitation. Within Mexico there are large disparities in infrastructure quality across regions and a moderate disparity between rural and urban areas.

Figure 1.16: Access to Improved Water and Sanitation in Mexico and Selected Comparators, 2012 (percent of population)



Source: World Development Indicators and World Bank staff calculations

87. **In 2013 Mexico invested about 0.25 percent of its GDP—or MXN 37 billion—in the WSS sector, a relatively modest amount compared to its peers.** Total investment includes budgetary and non-budgetary federal resources, as well as funds from state and municipal governments, state water commissions and the private sector. Some of these investments were in the form of funds pledged by local governments in order to secure matching federal funds. Latin American countries with similar or higher coverage levels such as Brazil, Argentina and Chile typically spend more than Mexico, and some regional leaders such as Costa Rica spend more than twice as much.

88. **CONAGUA itself executes about half of total WSS investment, and this share has nearly doubled in the last 15 years.** The importance of CONAGUA’s financing role goes beyond its own investments. It also manages federal capital investment subsidy transfers or matching grants, which incentivize complementary investments and unlock matching funds. When co-financed investments are included, CONAGUA’s share in total WSS investment increases to about 80 percent.

89. **Over time the composition of federal financing mechanisms for WSS investments has shifted in favor of federal investment projects and programs, while spending on matching grants has remained broadly unchanged in real terms.** This trend has reinforced CONAGUA’s key role not only in funding but also in executing WSS investments. In real terms, the amount allocated to annual subsidies via the federalized matching grants has remained broadly stable at about 30-40 percent of CONAGUA’s budget despite proactive attempts by the SHCP to reduce the amount of subsidies channeled through matching grant programs, which are subject to less stringent controls.⁶ Federal matching grant programs encompasses

⁶ This is confirmed by the 2016 budget proposal, which would consolidate, minimize or eliminate matching grant programs not subject to published operating rules.

programs subject to operating rules published as part of the annual budget process, as well as programs governed by unpublished guidelines. Curtailing the use of the latter is critical to the transparent management of sectoral resources. Meanwhile, matching grant programs subject to operating rules are the most stable and predictable component of CONAGUA's budget, even though the SHCP clearly defines them as temporary interventions designed to subsidize single-year investments.

90. **Transfers to subnational governments through matching grant programs cannot—in principle—be used to finance multiannual projects.** However, many if not most WSS projects are multiannual in nature, and as a result states and municipalities have formed a tacit agreement with CONAGUA to use the promise of future matching grant program financing to simulate a multiannual investment cycle. Municipal governments and CONAGUA define a multi-year investment project using “investment stages,” with each individual stage financed by a separate annual matching grant transfer. The Budget Law cannot guarantee future matching grant allocations, which in theory creates a risk that financing may cease before a project is completed. In practice, however, matching grant allocations have been CONAGUA's most stable fiscal transfer mechanism of the last decade.

91. **The informal system for securing multi-year CONAGUA financing has negative implications for expenditure efficiency.** It goes against both international best practices and the provisions of Mexico's Public Work Law. The law states that a project must be tendered only once—not in multiple stages—and that annual capital subsidies are limited to the annual budget cycle, not to the implementation schedules of the projects they finance. In principle, the operating rules for matching grant programs rule out investment projects that would require more than a year to implement, but in practice no operating rule can eliminate the necessity of multiannual investments at the subnational level or diminish the importance of federal financing.

92. **Poor planning by municipalities is a major cause of delays in budget execution.** Projects are often prepared late, and the sector lacks a pool of prioritized pre-feasibility project files. Project preparation and technical validation by CONAGUA both primarily occur within the same fiscal year as implementation. Moreover, the unpredictability of CONAGUA transfers incentivizes local governments to seek parallel resources from other agencies. Duplications, overlaps and redundancies in the operating rules governing annual capital subsidies exacerbate these issues, compounding planning difficulties and increasing transaction costs.

93. **Introducing a formal mechanism for allocating multi-year funds would eliminate many of the negative effects of the current informal system.** The capital budget allocation process should be reformed to include multiannual funding mechanisms beyond the federal investment projects financed by SHCP. Municipalities should receive an indicative medium-term budget ceiling and begin formulating program operating rules based on a two-year horizon. Policymakers should consider harmonizing and simplifying operating rules to prevent the duplication of functions, align the objectives of multiple programs and effectively target diverse constituencies with different water and sanitation requirements. Operating rules should be periodically revised, and expenditure management guidelines should allow a degree of flexibility between capital investment and operational expenditure allocations. Increased budgetary flexibility must be accompanied by greater transparency in decision making and reporting. CONAGUA's informal system of intra-annual, intra-program, inter-state transfers should be formalized based on clear allocation criteria. The investment cycle should be revised to match the needs of actual projects, and in cases where unexpected events require shifts in short-term funding, the scope and rationale for such reallocations should be published in detail.

94. **Policymakers should redouble their efforts to improve the planning and technical capacities of municipalities and sector operators.** Efforts to develop local capacity should focus on poorer states and municipalities, and CONAGUA should reverse the trend towards reducing allocations for projects

supporting improvements in public administration. Local analytical capacity should also be developed, particularly in disadvantaged states and localities, and CONAGUA should invest more in monitoring and evaluating projects from an asset-lifecycle perspective. Over the longer term policymakers will need to develop a more thorough understanding of how operational costs are funded by *organismos operadores*. An assessment of how the sector's financial operations function in practice will be necessary to realign investment incentives and ensure the long-term financial sustainability of the WSS sector.

Public Security

95. **Combatting crime, violence and insecurity is among Mexico's most critical challenges.** The government has taken important steps to counter rising crime rates, but recent progress has come at a considerable fiscal cost. The homicide rate increased from 9.4 per thousand people in 2007 to 19.8 in 2011 before dropping to 13.8 in 2014. Meanwhile, federal spending on public security more than doubled relative to the size of the economy, rising from 0.7 percent of GDP in 2001 to 1.6 percent by 2013.

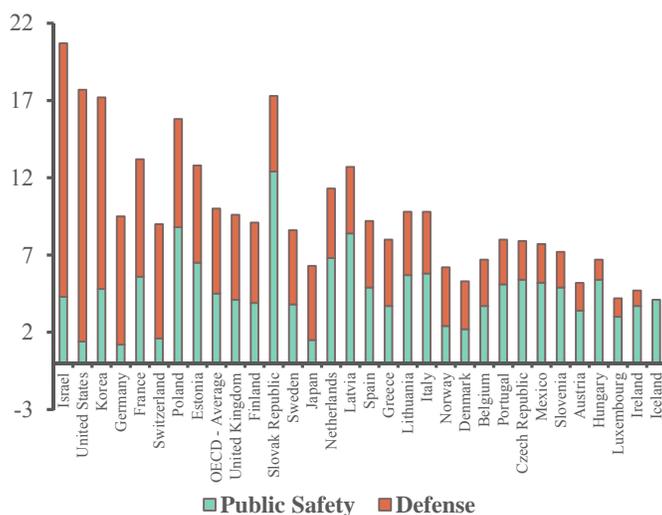
96. **Despite the high-profile nature of crime in Mexico, the country's homicide rate is moderate by regional standards.** Even at its peak in 2011 Mexico's homicide rate remained below the Latin American average, and well below the rates of Colombia and Brazil. Nevertheless, Mexico's current homicide rate is still far higher than the OECD average.

97. **However, only an estimated 6.6 percent of crimes are reported, casting serious doubt on the accuracy of Mexico's crime statistics.** Cross-referencing victimization surveys with criminal justice data reveals an enormous "dark number" (*cifra negra*) of unreported crimes. Remarkably, only 2 percent of all crimes are processed through Mexico's criminal justice system, and just 1.6 percent reach the sentencing phase. Moreover, public perceptions of police effectiveness remain largely negative despite the massive increase in security spending and the large-scale hiring of new personnel.

98. **In 2013 federal spending on public security represented 8 percent of total public expenditures.** The justice system accounted for the largest share of total security spending (38.8 percent), followed by national security (32.9 percent) and law enforcement (28.4 percent). The police account for 75 percent of law enforcement spending, and in nominal terms the police budget is roughly equal to the military budget. Mexico spends a large share of its resources on the justice system relative to security and national defense, yet it has the lowest number of magistrates per capita in Latin America at less than one-fourth of the OECD average. In 2013 the federal government was operating a staggering 99 public security programs, with 18 percent of federal security spending going to an unspecified "other activities" category. Here, as elsewhere in the security sector, data limitations prevent a thorough analysis of expenditure performance.

99. **The number of security personnel has increased dramatically over the past decade.** A complex set of institutions has been developed to coordinate security efforts across the federal, state and municipal levels. However, the process for allocating federal transfers to state and local security agencies is not transparent, and the distribution of resources does not reflect relative crime rates. Some output measures, such as the reported number of crimes cleared by the police, would appear to indicate that the security system is relatively effective. However, other measures, such as the public's self-reported vulnerability to crime or perceptions of police performance, present far more ambiguous results.

Figure 1.17: Spending on Public Safety and Defense in OECD Countries
(percent of Central Government Spending)



Source: OECD, *Cuenta Pública de la Federación*

100. **The efficiency of public security spending hinges on the quality of interagency coordination and the political economy of federal-state relations.** This is evident in the administration of federal transfers to state and municipal security forces through the Earmarked Fund for Public Security (*Fondo de Aportaciones para la Seguridad Pública*, FASP), the Municipal Security Subsidy (*Subsidio para la Seguridad en los Municipios*, SUBSEMUN) and the Subsidy for Accredited Police (*Subsidio para la Policía Acreditada*). Inefficiencies in the allocation of transfers to subnational security agencies through FASP and SUBSEMUN reduce the impact of security spending. Moreover, there does not appear to be a significant correlation between levels of crime and violence and security spending at the state level, even in the small number of states with crime rates far above the national average.

101. **The allocation mechanism for FASP funding is excessively complex, and it is unclear how the distribution of resources is ultimately determined.** The opacity of the FASP transfer mechanism perpetuates expenditure inefficiencies, and reporting rules are largely unenforced. According to the Superior Audit Office, the crime and violence diagnostics that states and municipalities are obliged to prepare in order to access FASP and SUBSEMUN funds are either unavailable or incomplete. While the formula for SUBSEMUN allocations is public, the process through which municipalities are selected to receive funds is not.

102. **In a context of mounting expenditure pressures addressing Mexico’s complex security challenges will require broad improvements in the quality of security spending.** The allocation formula for FASP funds should be revised to make the process of applying for funds more transparent and competitive. The authorities should identify clear objectives for FASP transfers and strengthen accountability for results. The process for determining SUBSEMUN allocations should be simplified and its selection criteria should be made public. Adjustments to the timeframe for transfer-financed programs could also improve efficiency. States and municipalities currently have only 3-5 months to implement programs financed by FASP and SUBSEMUN, and this horizon should be extended to 2 years. Procurement should be carried out through public tenders in line with international best practices. Furthermore, specific action plans should be developed to guide the implementation of security projects and programs.

103. **The authorities should consider the long-term fiscal impact of increasing personnel costs and undertake a functional review of the security and justice systems.** This is especially critical in light of the ongoing “single command” reform program, which will dissolve municipal police forces and transfer roughly 500,000 police officers to state command. Shifting such a large number of personnel is likely to put substantial, continuous and increasing pressure on expenditures. Moreover, it is not fully clear whether this program’s fiscal implications have been accounted for in the government’s medium-term expenditure plans.

104. **A comprehensive review of the organizational structure of the police forces, including those under the new “single command,” would yield important insights into the overall efficiency and effectiveness of security spending.** The authorities should also conduct a thorough expenditure assessment of the justice system. Mexico’s low number of magistrates per capita has resulted in a large backlog of cases. This represents a major obstacle to the operations of the entire security sector, and it is especially problematic in light of the relatively large share of resources devoted to the justice system. A more detailed understanding of how judicial resources are spent could form the basis for more effective expenditure policies.

105. **Finally, the authorities should explore strategies for improving the impact of security spending on sector outcomes rather than focusing exclusively on intermediate outputs.** The public’s perceptions of crime and of the effectiveness of the police have been largely unaffected by the recent increase in security spending. While important progress has been made in certain output measures, policymakers should take a holistic view of the outcomes generated by the security sector and adjust their expenditure strategies accordingly.

CONCLUSIONS AND RECOMMENDATIONS

106. **While Mexico’s overall expenditure stance and macro-fiscal profile remain sustainable, managing the trajectory of public spending will pose an increasingly complex challenge in the coming years.** The gradual reduction of the fiscal stimulus will be essential to maintaining short-term macro-fiscal stability. Over the longer term Mexico will face a secular increase in nondiscretionary and inflexible expenditures driven by a combination of demographic change, policy commitments and systemic budgetary rigidities.

107. **Policymakers should regard the current fiscal adjustment as a valuable opportunity to lock in structural efficiency improvements that will permanently increase the effectiveness of public expenditures.** While short-term cuts in discretionary spending could temporarily improve the government’s fiscal stance, any gains made would be modest and reversible. Instead, the authorities should focus on enhancing the quality of public spending by reinforcing both the allocative efficiency of the budget and the technical efficiency of individual programs. The demonstrated volatility of revenues and the projected increase in long-term spending pressures underscore the importance of seizing this opportunity to enact far-reaching reforms.

108. **The main policy conclusions of this PER are summarized below:**

- ❖ In order to maintain macro-fiscal stability policymakers must ensure compliance with the fiscal rule both during and after the completion of the current fiscal adjustment.
- ❖ Due to budgetary rigidities short-term spending cuts will be heavily concentrated in a small share of the budget. This may negatively impact the overall quality of public spending, as cuts will be based primarily on budgetary feasibility rather than expenditure efficiency. A medium-

term strategy to reduce the inertia of the budget should include both process reforms and legislative changes.

- ❖ Demographic, technological and other exogenous factors are driving a long-term increase in public health and social protection spending, compounding similar policy-driven trends in education, subsidy programs and the public security sector.
- ❖ The government must significantly improve the efficiency of spending in order to achieve its policy goals in a context of mounting expenditure pressures and persistent revenue volatility. The challenges posed by the country's growing fiscal demands should be regarded as an important opportunity to eliminate inefficient expenditures and maximize the impact of public resources.
- ❖ The policy options summarized in Table 1.3 are designed to open new fiscal space and enhance the efficiency of certain expenditures. Over the longer term, improving data quality and more effectively incorporating performance evaluations into the policy process would inform the development of deeper and more extensive expenditure rationalization measures.

Table 1.3: Policy Actions: Efficiency, Equity and Fiscal Savings

Policy Context	Policy Action	Efficiency	Equity	Potential Savings (in % of GDP)
<p>Preserving domestic fuel-price stability has functioned as a partial public revenue hedge against oil-price volatility, though at a high cost in terms of public revenue. The energy sector reform envisages a liberalization of the fuel distribution and retail market by 2018, including a liberalization of the current fixed final sales price. Fuel price liberalization would be consistent with a switch to a fixed per-unit excise tax (from the current variable excise tax). Current fuel price levels (domestic and international reference) imply a reasonable level of the fuel excise tax. Fixing the excise at its current level is viable as it does not lead to a direct final price shock.</p>	<p>Accelerate the fuel-price liberalization process by switching the excise tax on fuel from a variable rate to a fixed amount and allowing the final sales price to fluctuate in line with international prices, thereby locking in revenue at its current level of approximately 1 percent of GDP.</p>	+	+	1% (by retaining what would otherwise be foregone revenue)
<p>Subnational tax collection is low by international standards due to the centralization of major tax bases and weak subnational collection efficiency. States collect an average of just 62 percent of the potential revenue from the state payroll tax (<i>nómina</i>). Numerous exemptions and subsidies greatly reduce the revenue generated by the state tax on motor vehicle ownership and use (<i>tenencia</i>).</p>	<p>Enhance collection efficiency for <i>nómina</i> taxes, which could increase state revenue by approximately 20 percent.</p> <p>Reduce <i>tenencia</i> subsidies and deter tax competition among states, returning collection rates to the level that prevailed when the tax was administered by the federal government.</p>	Neutral	Neutral	0.15-0.2%
<p>Property taxes in Mexico represent 0.18 percent of GDP, far below the Latin American average of 0.6 percent. This is due primarily to issues with collection efficiency. Most municipalities have limited administrative and technological resources, making it difficult to maintain updated registries and accurately assess property values.</p>	<p>Incentivize tax administration agreements between state governments and small municipalities.</p>	+	+	0.3%

	<p>Coordinate the updating of the property registry by state and federal agencies.</p> <p>Establish an automatic system for reevaluating property values.</p> <p>Explore the possibility of enabling state and municipal governments to swap collection responsibilities for <i>tenencia</i> and <i>predial</i> taxes.</p>			
<p>Mexico devotes 9 percent of its total current expenditures in the health sector to administrative and insurance costs, the largest share of any OECD country. This is primarily the result of the organizational fragmentation of the healthcare system. In OECD countries the average is less than 3 percent.</p>	<p>Reduce administrative costs by integrating the functions of different healthcare schemes. In the short term this could partly be achieved through the strengthening of the Master Plan for Infrastructure, the consolidation of procurement and the establishment of agreements for the exchange of services.</p>	+	Neutral	0.1-0.15%
<p>Curbing the excessive use of certain counter-indicated procedures could reduce costs while also improving the quality of care. For example, Mexico has the second-highest rate of C-sections in the OECD. The average cost of a C-section is twice the cost of a normal delivery, and the procedure entails a much higher probability of complications.</p>	<p>Adopt procedural guidelines designed to reduce the rate of C-sections to the OECD average.</p>	+	Neutral	0.02%
<p>There are significant beneficiary overlaps and inconsistencies across insurance schemes. In 2014 the Health Secretariat reported that about 6 million people were covered by both IMSS and <i>Seguro Popular</i>, 1 million by IMSS and ISSSTE, 800,000 by <i>Seguro Popular</i> and ISSSTE, and 85,000 by <i>Seguro Popular</i>, IMSS and ISSSTE.</p>	<p>Eliminate beneficiary overlaps by establishing a comprehensive database for all major healthcare schemes.</p>	+	+	0.1-0.15%

<p>The consolidated procurement of pharmaceuticals has generated a substantial costs savings, but the potential of this system has not been fully exploited. In 2014, the consolidated procurement of pharmaceuticals yielded an estimated savings of 0.03% of GDP. However, even consolidated procurement still involves 10 discreet processes, and the procurement system remains largely confined to pharmaceuticals.</p>	<p>Further centralize pharmaceutical procurement and expand consolidated purchasing to cover other health sector goods and services.</p>	+	-	0.02%
<p>There are significant irregularities in the teacher payroll financed by federal FONE transfers to state governments. A recent school census confirmed the prevalence of ghost workers and double-dippers and highlighted the problem of widespread teacher absenteeism.</p>	<p>Conduct regular FONE payroll audits to detect irregularities, generating a potential savings of 5 percent of the total payroll.</p> <p>Recentralize and standardize the management of the teacher payroll to enhance oversight and facilitate the collection of state income tax.</p>	+	Neutral	0.1-0.15
<p>Social assistance programs are generally well targeted, but some leakages do exist. An estimated 10 percent of total social protection spending goes to beneficiaries in the top 40 percent of the income distribution.</p>	<p>Eliminate leakages to higher-income groups and reinforce targeting standards before scaling up social assistance programs.</p>	+	+	0.1
<p>Labor market programs are fragmented and their effectiveness is questionable. Many labor market programs have not been thoroughly evaluated, but the available evidence suggests that most are not achieving their intended objectives.</p>	<p>Systematically evaluate all labor market programs, eliminate the least effective and scale up the most successful.</p>	+	+	0.1
<p>The fragmentation of rural and agricultural development programming heightens risks related to beneficiary duplication, administrative redundancies and financing leakages. A range of ministries and other public agencies are implementing more than 200 rural</p>	<p>Consolidate the numerous rural and agricultural development programs and eliminate the least effective.</p> <p>Refine the monitoring and evaluation system for rural and agriculture</p>	+	+	0.2

development programs with a total budget equal to more than 3 percent of GDP.	development programs in order to better observe, quantify and measure their impact.			
<p>Programs designed to support small and medium enterprises are highly fragmented and rarely evaluated. Many entrepreneurship programs suffer from a lack of clarity regarding their target populations, development goals and performance indicators.</p>	<p>Redesign and reorganize entrepreneurship programs.</p> <p>Strengthen monitoring and evaluation mechanisms, and incorporate evaluation results into programmatic strategies and funding allocations.</p>	+	Neutral	-

MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 2: The Macro-Fiscal Profile



This chapter was prepared by Jozef Draaisma with support from Elisa Hernandez.

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EXECUTIVE SUMMARY

Mexico has taken important steps to safeguard macroeconomic stability, and consistent monetary and fiscal policies have reinforced the economy's resilience to external shocks. These measures have been complemented by structural reforms in areas such as education, the labor market, competition policy, energy, telecommunications and financial intermediation. Over time this combination of responsible macroeconomic policies and steady progress on the structural reform agenda is gradually enhancing Mexico's economic productivity and expanding its growth potential.

However, an emerging set of external and domestic challenges has put the government's development objectives at risk. Falling oil prices have underscored the uncertainty of a key revenue stream, while monetary policy normalization in the United States is tightening international credit markets, and a slow and uneven global economic recovery is contributing to a challenging external environment. The oil sector remains an important external driver of fiscal dynamics, and the Mexican government recently announced its intention to adjust public spending to reflect diminished oil-revenue projections.

Over the past decade strong public revenue performance and a substantial degree of deficit financing facilitated a significant expansion in public expenditures. However, a steady increase in the public debt-to-GDP ratio in the past seven years has limited the space for further deficit spending and highlighted the importance of fiscal consolidation. Full implementation of tax and energy sector reforms would mitigate the current decline in revenues by boosting oil production and expanding tax collection.

Faced with declining oil revenues, an uncertain external environment and a secular increase in expenditures the Mexican authorities are increasingly focused on improving the quality of public spending. The broad realignment of the government's fiscal stance has presented policymakers with a valuable opportunity to enhance the efficiency, equity and impact of public expenditures. Mexico is at an important fiscal turning point, and efforts to maximize the effectiveness of a limited resource envelope will ease long-term spending pressures, enabling the government to continue advancing its development objectives while maintaining its hard-earned reputation for fiscal discipline.

Main Messages

Maintaining fiscal sustainability will require a medium-term fiscal consolidation effort equal to at least 2 percent of GDP. Mexico's debt-stabilizing primary surplus is equal to about 0.4 percent of GDP or, considered in terms of public sector borrowing requirements, the country can incur an overall fiscal deficit of up to 2.5 percent of GDP to stabilize its debt-to-GDP ratio. This implies a required fiscal consolidation of at least 2 percent of GDP.

Tax revenue has been the largest contributor to recent public revenue growth, and recent revenue-enhancing tax reforms notwithstanding, Mexico's relatively low tax burden suggests that there is still room for increasing taxes to meet rising expenditure pressures. Public revenue is projected to rise over the medium term as an increase in oil production and stronger tax compliance offset the effect of lower oil prices. While current policies are focused on adjustments to public spending, further revenue-enhancing tax reforms may be necessary to address longer-term fiscal pressures.

Oil plays a significant role in Mexico's public finances, contributing about a third of total revenue, but its fiscal importance is diminishing over time. In previous years high oil prices compensated for a gradual decline in the volume of oil production. Reversing this trend will require increased capital investment, and recent reforms will allow for some investments to be financed in partnership with the private sector. Nevertheless, the fiscal importance of the oil sector is likely to continue declining, as new

oil discoveries are expected to face higher marginal costs, and increases in production volumes are unlikely to keep pace with the expansion of economic activity.

Domestic fuel-pricing policies come at a high fiscal cost. Final domestic sales prices for gasoline and diesel are administratively determined, and any difference between the final sales price and the underlying international price is reflected in variations in the excise tax. While this pricing policy partially insulates overall fiscal revenue against oil-price volatility, in recent years the revenue foregone by not fully passing on international price fluctuations to domestic consumers has been substantial.

Over the past decade the size of the federal budget has increased significantly, both in real terms and as a share of GDP. Almost all major expenditure categories have expanded faster than economic growth. The only exception was public debt service, though the space available for further reducing the cost of debt service as a share of GDP is limited. The overall public sector wage bill expanded in line with GDP, but the average annual growth rate of spending on pensions, healthcare, social assistance, public security and capital investments has averaged 2-3 times the rate of economic growth.

Despite shifting from defined-benefit to defined-contribution systems, liabilities in the major national pension schemes continue to increase rapidly. While pension reforms were designed to reduce long-term fiscal costs, individuals who joined the system prior to the reforms will continue to receive publicly funded benefits under the previous rules. The fiscal cost of an extended transition to a fully funded defined-contribution system is being exacerbated by rapid demographic aging, and as a result the fiscal cost of pension payments is projected to rise by about 1 percentage point of GDP per decade before ultimately peaking between 2040 and 2050. The expansion of non-contributory pensions will further increase spending pressures.

Budgetary rigidity may affect the quality of the fiscal adjustment, as spending cuts are likely to be concentrated in a narrow range of expenditure items. Approximately 62 percent of the federal budget consists of mandatory spending obligations, including state and local transfers, pension payments, debt service and the public sector wage bill. Another 19 percent is devoted to autonomous entities, sector-specific procurement and transfer and subsidy programs, expenditures which are flexible in principle but not in practice. Budgetary rigidity carries a range of negative implications for expenditure efficiency, various aspects of which are analyzed in Chapters 3, 4 and 5 of this Public Expenditure Review.

Conclusions and Recommendations

An evolving macroeconomic outlook may affect the timing and pace of the fiscal adjustment process, but a moderate debt burden and favorable debt profile will allow for a gradual approach to fiscal consolidation. The additional deficit financing made available through the use of the escape clause to the balanced budget rule in 2014 will be phased out over a three-year period. The government's planned expenditure adjustments are not designed to accelerate this fiscal consolidation, but rather to compensate for falling oil revenues. A further, more modest consolidation may be required over the medium term to ensure a downward-sloping debt trajectory. The recently published expanded concept of public sector borrowing requirements (or the adjusted primary balance) should be used to more accurately measure and communicate progress in maintaining aggregate fiscal discipline.

If the government were to advance its fuel-price liberalization agenda by switching to a fixed per-unit excise tax on fuel, it could lock in revenues at their current level. As part of its energy sector reform program the government announced plans to open the retail fuel market to private firms and liberalize fuel prices by 2018. Policymakers should consider accelerating the liberalization process by shifting from a fixed sales price with a fluctuating excise tax to a fixed excise tax with a fluctuating sales price. Swift action

would enable the government to lock in excise tax revenues at their current level of approximately 1 percent of GDP.

Additional reforms will be necessary to expand pension coverage, enhance the adequacy and equity of benefits, and reinforce the sustainability of the system. Recent reforms have focused on managing the long-run fiscal cost of pension programs. However, inadequate coverage levels and large differences in projected benefits for those who entered the pension scheme before and after the reforms have raised serious concerns regarding the adequacy and equity of future pension benefits as well the fiscal cost of the transition to a fully funded defined-contribution system. Coverage could be expanded by incorporating non-contributory pensions into the national pension framework, while adjustments to the contribution rate, a gradual increase in the retirement age, and the taxation of pensions like other forms of income could mitigate some of these concerns. The defined-benefit pension systems still used by some public enterprises, state governments and public universities will require comprehensive reforms to align benefits with contributions or prevailing labor market conditions.

As fiscal pressures intensify over the medium term the rationalization of public spending must go beyond cuts in public investment and operating expenses. Budgetary inertia and rigidities are evident at both the aggregate and sector levels; mandatory expenditures represent 60-70 percent of the budget, while another 20 percent is comprised of technically discretionary but effectively inflexible expenditures. Expenditure rigidity hinders the government's ability to reallocate resources in response to evolving priorities or assessments of existing programs. Effecting a more profound and comprehensive expenditure adjustment will require policy actions and reforms to legal and contractual obligations over a horizon that extends well beyond the annual budget process. The current Medium-Term Fiscal Framework does not include a specific agenda for attaining aggregate revenue and spending targets. A medium-term budget framework that provides more detailed projections of future spending allocations and encompasses periodic sector-specific spending reviews could enable the authorities to identify, propose and implement effective policies for controlling expenditure growth and leveraging the impact of scarce public resources. Efficiency improvements will be critical to overcome the limitations imposed by expenditure rigidities and budgetary inertia, and the authorities should extend the horizon over which the impact of policies is taken into account.

INTRODUCTION

1. **Over the past decade Mexico has made significant progress in achieving and maintaining macroeconomic stability.** Its success has been reflected in low and stable inflation rates, an extended peso yield curve underpinned by low long-term interest rates, and a stable currency with modest external deficits largely financed by longer-term foreign investment. Consistent monetary and fiscal policies—including a flexible exchange rate, a sophisticated public-debt management strategy and the use of various risk-mitigating instruments—have significantly diminished the vulnerability of the Mexican economy to external shocks. However, while macroeconomic stability is a necessary condition for economic growth, it is not sufficient on its own, and Mexico’s growth over the past few decades has been insufficient to raise the living standards of large segments of the population.

2. **Mexico’s moderate economic growth rates have prompted the government to undertake a series of structural reforms in the past few years targeting key areas such as education, the labor market, competition policy, telecommunications, financial intermediation and the energy sector.** Even as the authorities continue to implement these reforms, gradually raising Mexico’s long-run growth trajectory, new challenges are emerging. Mexico faces a difficult external environment marked by lower global oil prices, monetary policy normalization in the United States and a weak recovery in global economic activity. The drop in oil prices has significantly impacted fiscal revenues, and the government has announced its intention to focus its fiscal adjustment efforts on containing expenditure growth.

3. **A short-term fiscal adjustment coupled with long-term structural expenditure pressures underscores the importance of the quality of public spending.** Expenditure rigidities may affect the quality of the fiscal adjustment in the short term, as spending cuts are likely to focus on a relatively small portion of the budget. Identifying budget rigidities, as well as their legal, contractual and institutional origins and justifications, may enhance the capacity of policymakers to reallocate resources and improve the quality of spending over the medium term. The anticipated secular increase in spending pressures should also spur policymakers to determine precise financing needs, analyze the determinants of public-expenditure effectiveness and evaluate prospective reform options.

4. **The analysis in this chapter is based on an assessment of the main trends in Mexican fiscal policy and the evolution of the public finances.** Changes in the level and composition of public revenues and expenditures, the fiscal balances and the public debt over the past decade are presented in real terms and as a share of GDP using different budget classifications. This enables a detailed examination of how policy priorities have influenced the observed macro-fiscal trends, and how these trends are situated within the broader context of economic, social and demographic developments in Mexico. The analysis considers expenditure rigidities and secular fiscal pressures and presents an estimate of the size of the fiscal consolidation necessary to ensure medium-term fiscal sustainability.

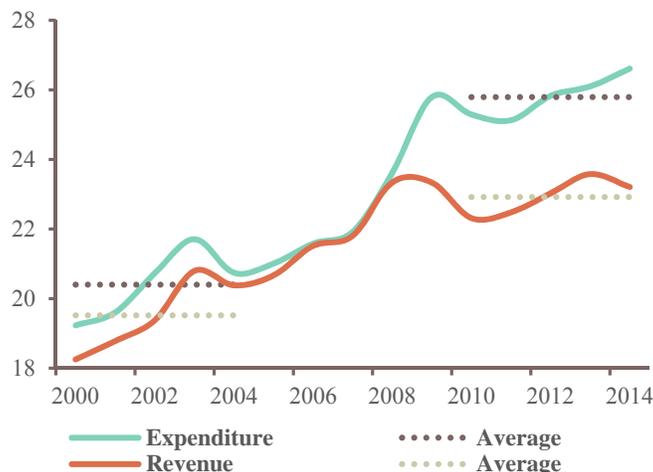
FISCAL DYNAMICS: AN OVERVIEW

5. **Strong public revenue performance combined with additional deficit financing enabled a substantial expansion in public expenditures during the past decade.** General government¹ revenues increased between 2004 and 2014 at an annual average rate of 3.8 percent in real terms. During this period the economy expanded at a more modest annual average rate of 2.4 percent; as a result, general government revenues as a share of GDP increased from an average of less than 20 percent between 2000 and 2004 to an average of almost 23 percent over the past five years (Figure 2.1). Steady revenue growth facilitated a

¹ Throughout this chapter the term “general government” refers to the central government (including the executive, legislative and judicial branches as well as autonomous entities), combined with the country’s two main social security institutions (IMSS and ISSSTE) and two state-owned enterprises (PEMEX and CFE).

significant increase of public spending, which grew at an annual average rate of 5 percent in real terms over the past decade. Public expenditures currently represent almost 26 percent of Mexico's GDP, compared to just over 20 percent a decade ago.

Figure 2.1: Public Revenues and Expenditures, 2000-2014 (% of GDP)



Source: World Bank staff estimates based on SHCP and INEGI

6. **By 2009 these revenue and expenditure dynamics had led to a widening primary deficit, a substantial increase in Public Sector Borrowing Requirements (PSBR), and a steadily rising public debt-to-GDP ratio.** While debt dynamics remain manageable, gross public sector debt reached 50 percent of GDP in 2014,² the threshold for heightened scrutiny according to the IMF's Debt Sustainability Analysis criteria.³ A consistent public debt management strategy, including the extensive use of longer-term fixed rate domestic currency financing for public financial requirements, has led to a debt structure in which interest- and exchange-rate shocks have a relatively low immediate impact on the cost of debt service.

7. **A balanced budget rule is part of the Federal Budget and Fiscal Responsibility Law (*Ley Federal de Presupuesto y Responsabilidad Hacendaria, LFPRH*), which was enacted in 2006 and modified in 2008 and 2014.** Assessing Mexico's fiscal dynamics and macroeconomic stabilization capacity requires understanding the scope of the public sector, the use of the escape clause to the balanced budget rule and the stabilization funds that are part of the LFPRH, as well as the law's subsequent revisions. When the LFPRH was adopted the federal public sector budget was balanced. However, the inclusion of a number of off-budget expenditure items generates a broader concept of the public sector balance known as the PSBR, which has been in deficit since 2006.

8. **A modification to the LFPRH in end-2008 eliminated the practice of off-budget investments financed and built by the private sector under long-term service contracts⁴ with the state-owned oil company PEMEX.** This measure brought all capital expenditures by PEMEX on-budget, yet excluded them from the balanced budget requirement. These investments have since amounted to about 2 percent of GDP. Further deficit financing was made possible by the use of the escape clause to the balanced budget rule in 2010 and 2014. Additional modifications to the LFPRH in 2014 aimed to strengthen fiscal discipline by capping the growth of certain current expenditures and using the PSBR as an explicit fiscal policy target.

² IMF, 2015

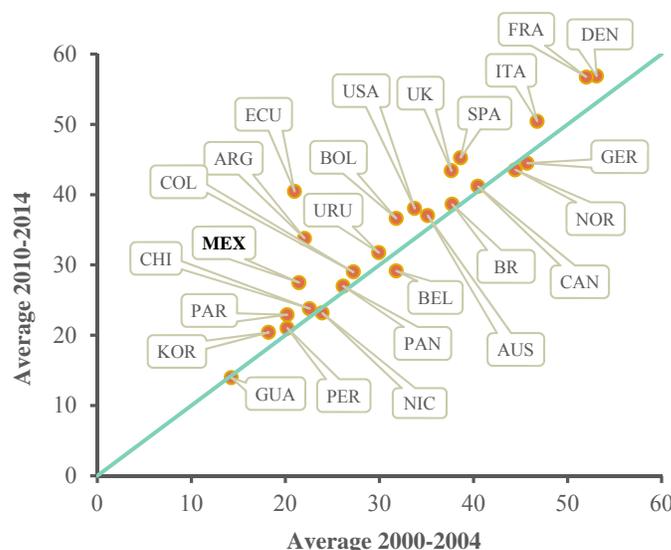
³ IMF, 2013

⁴ These are known as *Proyectos de Inversión Diferida en el Registro del Gasto*, or PIDIREGAS. See Box 2.1.

9. **Narrowing fiscal space and external shocks have prompted a fiscal consolidation effort focused on containing public spending.** A slow and anemic recovery in global economic activity following the 2008 global financial crisis contributed to a delay in the withdrawal of countercyclical fiscal stimulus in Latin America’s six large financially integrated emerging economies, including Mexico.⁵ A persistent primary deficit, a steady increase in the public debt-to-GDP ratio between 2009 and 2014, and a sharp decline of oil prices in late 2014 diminished the available fiscal space and necessitated consolidation. As major revenue-enhancing tax reforms became effective as recently as 2014, this fiscal adjustment effort will focus on reducing public spending.

10. **The oil sector continues to play a significant role in Mexico’s public finances, representing about a third of total public revenue over the past decade.** Despite a considerable amount of volatility, oil prices rose to a record high (in nominal terms) of over US\$100 per barrel in 2008 and again between 2011 and 2013. In contrast, the volume of production reached a maximum of 3.4 million barrels per day at the beginning of the decade in 2004 and has since declined by about 30 percent. The recent drop in oil production has spurred increased investment in the energy sector, and reforms enacted between 2013 and 2014 allow for some of these investments to be undertaken in partnership with private firms. Despite the anticipated rise in production volumes the government’s fiscal reliance on oil revenue will continue to decline over time, as it is estimated that most of Mexico’s more easily exploitable reserves have already been developed, and new oil discoveries will likely involve substantially higher production costs.

Figure 2.2: Average Public Spending-to-GDP Ratios, 2000-2004 and 2010-2014



Source: World Bank staff estimates based on IMF World Economic Outlook Database

11. **Over the past decade the sustained growth of public revenues and expenditures led to a substantial increase in the size of the Mexican public sector as a share of the economy.** The increase in Mexico’s public spending-to-GDP ratio was one of the most rapid among its regional peers and comparable higher-income countries, moving Mexico closer to countries such as Colombia and Panama (Figure 2.2). It should also be noted that Mexico, like some of its peers in the region (e.g. Chile and Peru), previously exhibited a relatively modest amount of public spending in relation to its level of development. On the basis of data from the IMF’s World Economic Outlook database,⁶ public spending as a percentage

⁵ IMF, 2015

⁶ IMF WEO data differ slightly from the definition of the Mexican federal public sector budget presented here due to the inclusion of off-balance spending items that are part of the broader PSBR, as well as the classification of a negative excise tax on gasoline and diesel as a positive expenditure item (i.e. a subsidy) instead of a negative revenue item.

of GDP in Mexico increased by more than 6 percentage points from an average of 21.4 percent between 2000 and 2004 to an average of 27.5 percent between 2010 and 2014. The increase in Mexico’s public spending-to-GDP ratio is likely to endure, as it was accompanied by a simultaneous increase in public revenue equal to 4.7 percentage points of GDP. This stands in contrast to recent increases in the public spending-to-GDP ratio among several higher-income countries, which were not accompanied by a substantial increase in revenue.

THE FISCAL BALANCE AND PUBLIC SECTOR DEBT DYNAMICS

12. **Mexico’s federal public sector consists of the central government and both financial and non-financial public enterprises.** A schematic overview of the federal public sector (Table 2.1) can help define the conceptual and institutional framework of public finance in Mexico. The federal public sector budget comprises all three branches of the federal government (executive, legislative and judicial) as well as the autonomous administrative entities, plus two national social security institutions (IMSS and ISSSTE⁷) and two state-owned enterprises (PEMEX and CFE⁸).

Table 2.1: The Federal Public Sector

Federal Public Sector*				
Non-financial Public Sector				Financial Public Sector
Central Government			Non-financial Public Enterprises	
Federal Government	3 Social Security Institutions	119 Public Enterprises with Governmental Functions	51 Public Enterprises Engaged in Non-Financial Business Activities	18 Public Enterprises
Executive Branch; Legislative Branch; Judicial Branch; Autonomous Entities;	IMSS; ISSSTE; ISSFAM	Universities; Hospitals; Research Institutes; Other Institutions and Facilities	Pemex; CFE; Capufe; Others	NAFIN; Banobras; FIRA; Financiera; Nacional; Agroasemex; IPAB; Others

Source: SHCP *Balance Fiscal en México, Definición y Metodología*, 2015

Note: Does not include the central bank

13. **Public enterprises that perform governmental functions and nonfinancial public enterprises (except PEMEX and CFE) maintain their own financial statements, which are not consolidated with the federal budget.** Nevertheless, these entities are under the indirect budgetary control of the federal government. Their aggregate financial balance has been limited to less than 0.05 percent of GDP, which is added to the federal public sector budget balance to determine the overall public sector balance.

⁷ The Mexican Social Security Institute (*Instituto Mexicano del Seguro Social* – IMSS) and the Institute for Social Security and Services for State Workers (*Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, ISSSTE).

⁸ The state-owned oil company *Petróleos Mexicanos* (PEMEX) and public electricity utility known as the Federal Electricity Commission (*Comisión Federal de Electricidad*, CFE) are currently referred to as “State Productive Enterprise” in the Mexican legislation.

Table 2.2: Public Sector Balance, 2008-2014 (% of GDP)

	2008	2009	2010	2011	2012	2013	2014
Public Sector Balance	-0.1	-2.3	-2.8	-2.4	-2.6	-2.3	-3.2
Public Sector Balance without PEMEX CAPEX	n.a.	-0.2	-0.8	-0.6	-0.6	-0.3	-1.1
Adjustments to the Public Sector Balance	-0.8	-1.9	-1.1	-1.0	-1.2	-1.4	-1.4
Public Sector Borrowing Requirements	-0.8	-4.2	-3.9	-3.4	-3.8	-3.8	-4.6
adjusted interest payments	3.4	3.4	3.1	2.9	3.1	3.1	3.1
adjusted primary balance	2.6	-0.8	-0.8	-0.5	-0.7	-0.7	-1.6

Source: World Bank staff estimates based on *Estadísticas Oportunas de Finanzas Públicas*-SHCP and INEGI

14. **The net borrowing requirements of the federal financial public sector are included in the adjustments to the public sector balance that generate the PSBR.** These adjustments include the net borrowing requirements of the Bank Deposit Insurance Institution (*Instituto para la Protección al Ahorro Bancario*, IPAB), the National Infrastructure Fund (*Fondo Nacional de Infraestructura*, FONADIN) and debt-support programs, as well as the expected profit or loss on the credit granted by development banks and public trust funds. Adjustments to the public sector balance also include revised budgetary entries related to changes in the valuation of financial assets and liabilities, such as the inflationary component of indexed debt. A recent modification⁹ to the LFPRH expanded the scope of the PSBR to exclude the net acquisition of financial assets and liabilities, such as the net inflows of resources to stabilization and reserve funds, from budgetary revenue and expenditure entries. Initial estimates by the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*, SHCP) of the broader PSBR are included in Table 2.2. The redefined PSBR provides a more useful indicator for measuring progress on the objective of aggregate fiscal discipline, and it should inform fiscal policy targets in accordance with the LFPRH.

Box 2.1: Public Sector Borrowing Requirements

The PSBR has been used to estimate the net financing needs of the federal public sector since 2006, when it was included in the reporting requirements of the Federal Budget and Fiscal Responsibility Law (FBFRL). In addition to the traditional budget balance the PSBR includes financing requirements from off-budget entities, trust funds and financing structures, such as Investment Projects Deferred in the Expenditure Registry (*Proyectos de Inversión Diferida en el Registro del Gasto* PIDIREGAS), IPAB, FONADIN, debtor-support programs, and net credit granted by development banks and trust funds. It also reflects valuation adjustments to budget entries such as the inflationary component of indexed debt. In order to ensure that it accurately describes the government's long-term fiscal stance, estimates of the PSBR that exclude non-recurrent revenue have been reported on a regular basis. Non-recurrent revenue refers to one-off revenue and financing operations, such as privatization proceeds, asset recoveries from stabilization funds and exceptional profit transfers from public entities. Until 2014 estimates of the PSBR, both including and excluding non-recurrent revenue, were presented as indicative fiscal figures reported for information purposes only.

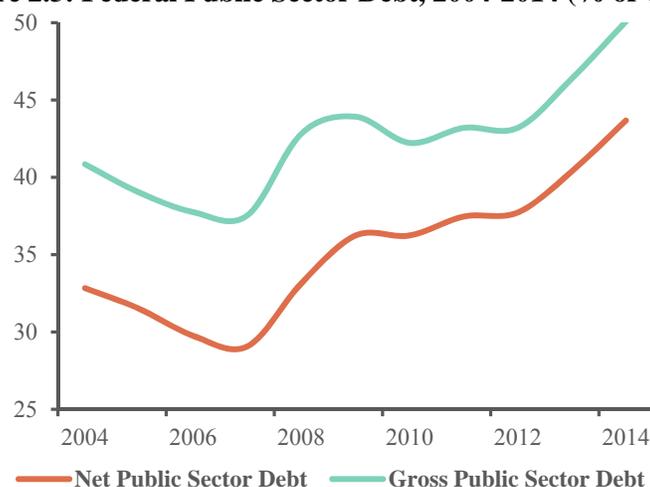
The 2014 reforms to the FBFRL introduced two critical changes with respect to the PSBR. First, the PSBR was defined as an explicit fiscal target to be used in tandem with the traditional budget balance. The annual target for the PSBR is now established according to annually revised 5-year projections designed to reflect a sustainable debt path. Second, the definition of the PSBR has been adjusted, in line with international best practices, to exclude the net acquisition of financial assets and liabilities. As a result, the estimate of the PSBR consolidates all revenues, expenditures and the financing provided by public trusts and stabilization funds within the budgetary public sector. One-off inflows are thus netted out from the PSBR without the need to separately identify them as non-recurrent revenue.

The SHCP has published its estimates of the PSBR—according to the modified definition—for 2008 through 2014. These estimates reveal the significant impact of valorization adjustments to budget entries. A more detailed breakdown of this particular line item could further enhance the usefulness of the PSBR as a policy tool while broadening the government's perspective on the overall public deficit.

⁹ Published in the *Diario Oficial* on January 24, 2014

15. **Modifications to the fiscal rule and the repeated use of the escape clause have resulted in substantial deficit financing and a sustained increase in the debt-to-GDP ratio over the past six years.** The balanced budget rule was modified in 2008. PEMEX capital expenditures were included in the budget itself, yet excluded from the observed budget balance. The total public sector balance has since indicated a deficit of at least 2 percent of GDP, which is broadly consistent with the level of PEMEX capital expenditures. In addition, the escape clause to the balanced budget rule was invoked in 2010 and 2014, allowing additional deficit financing to be gradually phased out over a three-year period. This occurred in the context of a severe contraction in economic activity in the wake of the 2008 global financial crisis, followed by a slow and uneven recovery. Modest growth combined with an average annual fiscal deficit of about 4 percent of GDP, as measured by the PSBR, resulted in a sustained increase in the debt-to-GDP ratio over the past six years.

Figure 2.3: Federal Public Sector Debt, 2004-2014 (% of GDP)

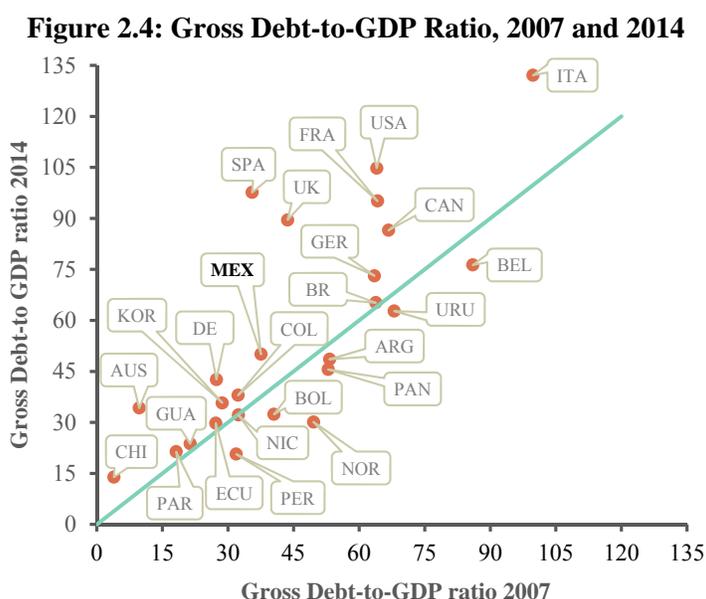


Source: IMF World Economic Outlook Database, April 2015

16. **Mexico publishes information on its net public sector debt with the same level of institutional detail as the PSBR.** The PSBR's historical balance includes the net debt of the federal government, all entities, institutions and enterprises under budgetary control, all debt-support programs, and the expected losses of development banks and funds (**Error! Reference source not found.**). The variation in the net public sector debt must be consistent with the level of the PSBR and any valuation adjustments to financial assets and liabilities not included in the PSBR, such as the revaluation of foreign debt due to changes in the exchange rate. The historical balance of the PSBR, or net public sector debt, reached a low of 29.1 percent of GDP in 2007 before steadily increasing to 43.4 percent in 2014 (Figure 2.3).

17. **The level and trend of the debt-to-GDP ratio are key indicators for assessing fiscal policy and public debt sustainability.** While many other country-specific factors must be taken into account, the debt-to-GDP ratio is always a critical policy indicator, as a large public debt burden will require a large primary surplus just to stabilize the debt level, thereby increasing vulnerability to market risks and diminishing the scope for countercyclical fiscal policy. International comparisons of the public debt burden tend to focus on the gross public sector debt-to-GDP ratio. Gross public sector debt refers to the financial liabilities of all institutions in the public sector, whereas net public sector debt refers to gross debt minus financial assets. While net debt is sometimes considered a more appropriate measure of the debt burden, the quality of net debt estimates varies widely across countries due to differences in the types of financial assets included in the estimate, as well as the specific valuation criteria used.

18. **Large increases in the public debt stock in higher-income countries have brought fiscal and public debt sustainability to the forefront of policy discussions.** A sharp deterioration in fiscal balances during the global financial crisis and, in some cases, government intervention in the banking sector worsened the debt outlook in many higher-income countries. In many cases this deterioration in debt indicators is compounding an increase in long-term spending pressures generated by an aging population.¹⁰ A comparison of the gross debt-to-GDP ratio before and after the global financial crisis not only reveals higher overall debt levels, but also an exceptionally large increase in the debt burden in certain higher-income countries compared to emerging markets in the Latin America and the Caribbean (LAC) region (Figure 2.4). While the level and trend of Mexico's debt burden compares favorably to that of higher-income economies, the country is moving towards the upper end of the spectrum relative to its regional peers.



Source: World Bank staff estimates based on IMF World Economic Outlook Database

19. **Fiscal and public debt sustainability are interrelated concepts.** A government's fiscal policy stance is generally regarded as sustainable if it yields a debt-to-GDP ratio that is on a level or downward trajectory. The minimum primary balance that is compatible with a sustainable debt-to-GDP ratio depends on the differential between the real interest rate and the real economic growth rate multiplied by the debt ratio. There is both a theoretical and an empirical basis for the assumption that over the long term the real interest rate exceeds the real growth rate, and as a result a commensurate primary surplus is required to maintain long-run fiscal and public debt sustainability.¹¹

20. **Maintaining fiscal sustainability in Mexico will require a medium-term consolidation equal to at least 2 percent of GDP.** The sustained increase in the public debt burden over the past seven years clearly indicates the need for a fiscal adjustment to restore a level or downward-sloping debt path. While the timing and pace of the adjustment may vary according to the macroeconomic outlook and market conditions, the size of the fiscal adjustment in the medium term can be estimated on the basis of a few critical assumptions using the fiscal sustainability framework described above. On the basis of a (net) debt-

¹⁰ IMF, 2011

¹¹ The primary and overall balances compatible with a constant debt ratio are expressed as $p = \frac{i-g}{1+g} d$ and $b = \frac{-g}{1+g} d$ in which p, b and d are the primary balance, the overall balance and the debt-to-GDP ratio, and i and g the nominal interest rate and the nominal growth rate. See Escolano, 2010

to-GDP ratio in 2014 of about 43.7% and assuming a medium-term interest-growth differential of 1 percent,¹² Mexico's debt-stabilizing primary surplus would be equal to about 0.4 percent of GDP. In terms of the overall balance, assuming an average nominal GDP growth rate of 6 percent, the debt-stabilizing PSBR would equal 2.5 percent of GDP. Given the most recent figures for the PSBR and the adjusted primary balance for 2014 (Table 2.2), this would imply a necessary fiscal consolidation equal to at least 2 percent of GDP.

TRENDS IN PUBLIC REVENUE

21. **As noted above, Mexico's general government revenue increased substantially during the past decade, both in real terms and as a share of GDP.** Overall revenue increased at an average annual rate of 3.8 percent in real terms during the past decade, expanding by almost 3 percentage points of GDP (Table 2.3). This trend was driven by a substantial increase in tax revenue following revisions to the tax regime and improvements in tax administration. The relatively steady growth of tax revenue stands in stark contrast to the volatility of oil revenue. Fluctuations in both prices and production contributed to oil-revenue volatility, and oil revenue declined as a share of total public sector revenue.

Table 2.3: Public Sector Revenue Growth, 2004-2014 (in real terms and as a % of GDP)

	2004-2014 Annual growth rate	2004 % of GDP	2014 % of GDP
Revenue	3.8	20.4	23.2
Oil	2.0	7.3	7.1
Tax	5.0	8.2	10.6
Non-tax	6.1	1.2	1.7
Social security and CFE	3.1	3.6	3.8

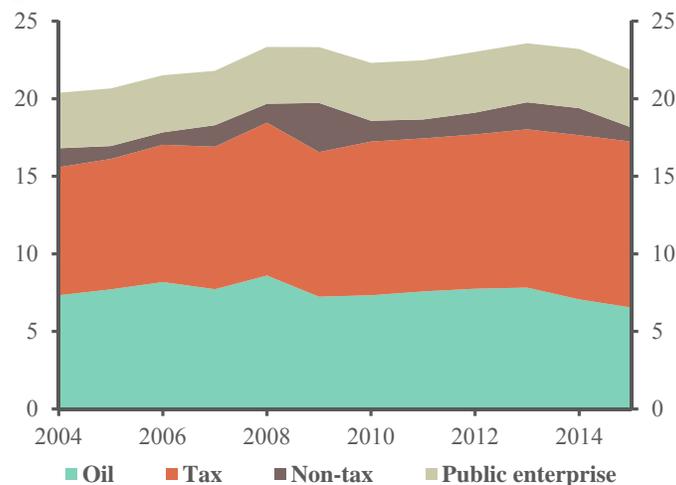
Source: World Bank staff estimates based on SHCP and INEGI

22. **The revenue of the two national social security institutions, IMSS and ISSSTE, as well as the state-owned electric utility CFE,¹³ expanded in line with economic growth and have remained broadly stable as a share of GDP.** By contrast, nontax revenue has tended to be much more volatile, as it includes fees, fines and, most importantly, revenue from other public sector activities and financial investments. A significant portion of nontax revenue is non-recurrent revenue, which is generated by concessions, central bank profits and especially the operations of stabilization funds and withdrawals from them. The withdrawal of resources from stabilization funds in 2009, including the payout from the oil-price hedge, substantially increased nontax revenue (Figure 2.5). A more detailed assessment of the evolution of oil and tax revenues and their role in overall revenue trends is presented in the following sections.

¹² Escolano, 2010

¹³ As mentioned above, both of these are included in the federal public sector budget. While PEMEX is also included in the budget, all revenues generated by its activities are defined as oil revenue.

Figure 2.5: Public Sector Revenue, 2004-2014 (% of GDP)



Source: World Bank staff estimates based on SHCP and INEGI

Oil Revenue

23. **The expansion of Mexico’s public sector during the 2000s was driven in part by large oil revenues, which peaked at 8.6 percent of GDP in 2008.** Oil revenues were initially boosted by rising production volumes, as output reached almost 3.4 million barrels of crude oil per day in 2004. While production fell by almost a quarter over the following five years, high international oil prices more than made up for the drop in volume. Output stabilized between 2009 and 2013 at about 2.5-2.6 million barrels per day, then started to decline again. Falling production volumes began to put downward pressure on oil revenue, which was dramatically exacerbated by the collapse of global oil prices during the second half of 2014.

24. **Mexico has established three mechanisms to mitigate the budgetary impact of oil-related shocks.** First, the reference oil price used in the budget is a weighted average consisting of the 10-year historical average (25 percent), the medium-term futures price (25 percent), and the short-term futures price adjusted by a prudence factor of 0.84 (50 percent). Futures prices are adjusted for the price differential between the Mexican mix of oil exports and international oil price references. Due to the weight of futures prices, and the close link between futures prices and spot prices, the reference price is quite responsive to price trends. Nevertheless, the reference price has generally been somewhat lower than the actual price. This can be attributed to the prudence factor and, when oil prices are high and rising, to the inclusion of the 10-year historical average. However, the latter also has the opposite effect when prices are falling, as was the case in 2009 and more recently in 2015.

25. **Second, the federal government has created several stabilization funds with budgetary contributions and windfall-revenue deposit requirements determined by provisions in the LFPRH.** These provisions were recently changed as a result of the energy sector reforms and the creation of a longer-term oil-revenue savings fund, the Mexican Oil Fund (*Fondo Mexicano del Petróleo*, FMP). The Budget Revenue Stabilization Fund (*Fondo de Estabilización de los Ingresos Presupuestarios*, FEIP) is currently funded by both an upfront annual budget allocation and by excess oil revenues, with a maximum deposit

amount established in the LFPRH.¹⁴ The FEIP's primary objective is to cover any shortfalls that may occur between actual federal government revenues and those defined in the revenue law.¹⁵

26. **Third, the federal government has implemented an oil-price hedging program through the FEIP.** The objective of the program is to stabilize the value of oil exports at a price that is consistent with the budget law for the subsequent fiscal year. The program is based on the use of put options to cover the risk of a decline in oil prices while retaining the benefits of a price increase. The policy decision to transfer downside oil-price risks to financial markets, at a cost, is based on the limited size and scope of the FEIP relative to the federal government's dependence on oil revenue. The return on the hedge transferred through the FEIP to the budget in 2009 proved to be an important factor in the consolidation of the public finances and the resilient performance of Mexican markets in the aftermath of the oil-price shock.¹⁶

27. **Domestic fuel-pricing policies also partially insulate the budget against oil-price volatility.** The final domestic sales price of gasoline and diesel is administratively determined, with most adjustments made according to a predetermined schedule. Because the final sales price, including the value-added tax (VAT), is fixed, any change in the underlying international price is reflected in a variation in the (implicit) excise tax. Fuel pricing thus creates a partial revenue hedge against oil-price volatility. When international oil prices rise, fiscal revenue from oil exports increases and revenue from excise taxes on domestic fuel sales decreases, and vice versa.

28. **Preventing international oil-price changes from passing through to domestic gasoline and diesel prices has proven costly in terms of public revenue.** Periodic price adjustments remained in line with the consumer price inflation rate until 2008 and then accelerated between 2010 and 2014. These adjustments kept domestic prices broadly constant in real terms, and they were insufficient to keep pace with rising international oil prices. High oil prices between 2006 and 2014 exposed an inherent weakness in the fuel-pricing policy as the excise tax turned negative, meaning that fuel was effectively subsidized. While fuel pricing has contributed to smoothing fiscal revenue and maintaining general price stability, a variable excise tax is at odds with an efficient pricing policy. The purpose of the excise tax should be to internalize the cost imposed on society by fuel consumption in the form of air pollution, congestion and greenhouse gas emissions.¹⁷

29. **Revenue from the variable excise tax on gasoline and diesel has been classified in different ways in public finance statistics.** Traditionally, revenue from the excise tax has been classified as part of oil revenue. In the 2015 budget, however, the excise tax is classified as nonoil tax revenue. The IMF's Government Finance Statistics Manual calls for including the excise tax under tax revenue as long as the revenue generated by the excise tax remains positive. If the excise tax turns negative, the implicit subsidy should be defined as a government expenditure. Oil revenue (excluding the excise tax) is more closely correlated with international oil prices, which reached historic highs in 2008 and between 2011 and 2013 (Table 2.4). More important, however, is the amount of public revenue foregone between 2006 and 2014 by not allowing international price fluctuations to fully pass through to domestic prices.

¹⁴ Deposits in the FEIP are limited to 8 percent of the sum of total tax revenue and oil revenue transfers to the budget from the FMP, as estimated in the revenue law. This currently amounts to approximately 1.2 percent of GDP.

¹⁵ Similarly, a Subnational Revenue Stabilization Fund (*Fondo de Estabilización de los Ingresos de las Entidades Federativas*) is used to cover shortfalls between the actual and estimated revenue shared with subnational governments.

¹⁶ Duclaud and Garcia, 2012.

¹⁷ IMF, 2015

Table 2.4: Excise Tax on Gasoline and Diesel, 2004-2014 (% of GDP)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Oil revenue including excise tax	7.3	7.7	8.2	7.7	8.6	7.2	7.3	7.6	7.8	7.8	7.1
o.w. excise tax on gasoline and diesel	0.6	0.2	-0.4	-0.4	-1.8	0.0	-0.4	-1.0	-1.3	-0.5	-0.1
Oil revenue without excise tax	6.7	7.5	8.6	8.1	10.4	7.2	7.8	8.6	9.1	8.4	7.1

Source: World Bank staff estimates based on SHCP and INEGI

30. **The recent drop in international oil prices has caused the excise tax to turn positive once again.** The government passed a single, modest increase in fuel prices in 2015, breaking from its previous policy of gradual monthly adjustments. Nevertheless, the decline in international oil prices has substantially increased the excise tax on gasoline and diesel. Revenue generated by the excise tax continues to reflect the difference between a fluctuating international price and a fixed domestic price, and based on current prices fuel excise tax revenue is expected to reach approximately MXN 200 billion, or 1 percent of GDP, in 2015.

31. **If the government were to accelerate its planned fuel-price liberalization by switching to a fixed per-unit excise tax, it would be able to lock in excise revenue at its current level.** As part of its recent energy reforms the government announced plans to open the retail fuel market to private participants in addition to PEMEX and to liberalize fuel prices in 2018. However, advancing the liberalization agenda by shifting from a fixed sales price with a variable excise tax to a variable sales price with a fixed excise tax would lock in excise tax revenue at approximately 1 percent of GDP.

Taxation

32. **Tax revenue contributed the most to public sector revenue growth during the past decade.** The share of nonoil tax revenue in the federal public sector budget increased from 41 percent in 2004 to 46 percent in 2014, while oil revenue decreased from 36 percent to 30 percent. Revisions to the tax regime in 2007, 2009 and 2013 included the elimination of exemptions, as well as the introduction of new taxes and an increase in tax rates. These changes, coupled with improvements in tax administration, significantly boosted tax revenue. All three major sources of tax revenue increased, but rising income tax revenue led the overall trend (Table 2.5).

Table 2.5: Tax Revenues, 2004-2014 (in real terms and as a % of GDP)

	2004-2014 Annual Growth Rate	2004 % of GDP	2014 % of GDP
Tax Revenues	5.0	8.2	10.6
Income Tax	6.0	4.0	5.6
VAT	4.2	3.3	3.9
Excise Tax	9.6	0.4	0.7
Other	-2.7	0.6	0.4

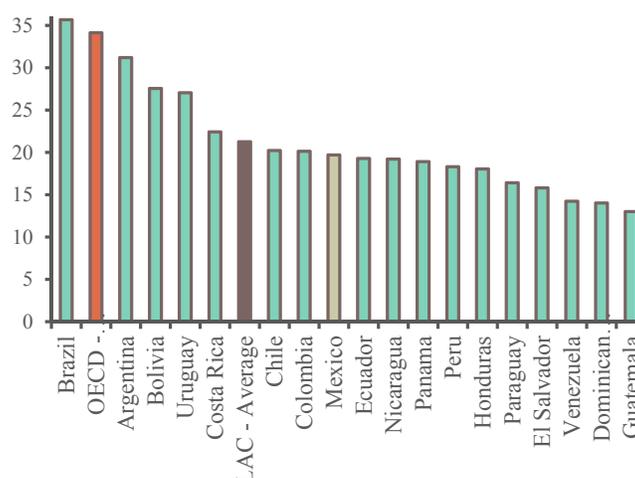
Source: World Bank staff estimates based on SHCP and INEGI

33. **Tax reforms adopted at end-2013 are designed to gradually increase tax revenue over the next couple of years.** Tax revenue is projected to increase by 2 percent of GDP by 2018 as a result of these reforms, which include the elimination of exemptions, measures to broaden the income tax base, harmonization of the VAT rate in border areas with the prevailing rate in the rest of the country, and the introduction of new excise taxes on high-calorie foods and soft drinks. A substantial increase in VAT and excise tax collection was observed during 2014, whereas most of the impact of income tax reforms is likely

to materialize in 2015. Preliminary figures on tax collection from the first months of 2015 are encouraging, though part of the increase in income tax revenue could be due to one-off effects of the tax reform.

34. **The tax burden in Mexico remains below the regional average and the lowest among OECD countries.** International comparisons of tax levels tend to employ a broader concept of tax revenue than the nonoil tax revenue of the federal government described above. Taking into account part of Mexico’s oil revenue, social security contributions and subnational taxes, its tax-to-GDP ratio increased by almost 3 percentage points between 2004 and 2013, from 16.8 percent to 19.7 percent. A similar increase in the tax-to-GDP ratio has been observed in other LAC countries, and as a result, Mexico’s tax burden remains slightly below the regional average of 21.3 percent (Figure 2.6). Mexico also continues to have the lowest tax-to-GDP ratio among OECD countries, which have an average rate of 34.1 percent.

Figure 2.6: Tax Revenue in LAC, 2013 (% of GDP)



Source: OECD, CIAT, ECLAC and IDB Database

35. **Mexico’s relatively low tax-to-GDP ratio suggests it still has room to increase tax levels to address mounting fiscal pressures.** Overall public sector revenue is projected to increase during the next few years, spurred by rising oil production and stronger tax compliance following the full implementation of the energy-sector and tax reforms. Such projections are, however, subject to significant downside risks, as demonstrated by the recent oil-price shock. While the government’s current fiscal adjustment effort is focused on containing expenditures, further revenue-enhancing reforms may be necessary to meet the challenge posed by rising fiscal pressures over both the short and long term.

EXPENDITURE PRESSURES

36. **Mexico’s federal public sector expenditures have increased substantially over the past decade, both in real terms and as a share of GDP.** Total spending in the federal public sector increased at an annual average rate of 5 percent in real terms, more than double the GDP growth rate. A closer look into the evolution of spending over this period—using different spending classifications—yields important insights into the government’s policy priorities, the secular evolution of spending pressures and the impact of expenditure rigidities.

37. **A common way of presenting Mexico’s federal public sector budget is to divide total expenditures into programmable and non-programmable spending.** Non-programmable spending refers to contractually or legally mandated payments and transfers, including revenue shared with subnational governments (*participaciones*) and interest payments on public debt. Non-programmable

spending currently makes up one-fifth of total federal spending. *Participaciones* are directly linked to specific revenue sources, and the transfer amounts change as these revenues change. Subnational governments thus automatically share in revenue growth, though in-year revenue volatility is also passed on to them. This creates a stabilizing effect on the federal public sector budget at the expense of subnational budgets. Other transfers to subnational governments, such as *aportaciones* and matching grants, are earmarked for specific expenditures and included and classified within the different categories of programmable spending.

38. **A reduction in interest payments on public debt as a share of GDP has opened some fiscal space, though increasing debt levels limit the prospect for a further reduction in debt service.** Interest payments on public debt represent about 7.5 percent of total budgetary spending and have remained stable at about 2 percent of GDP over the past few years.¹⁸ The impact of a gradual increase in the debt-to-GDP ratio has been partially offset by a lower effective nominal interest rate on public debt, which fell from about 7.5 percent in 2007, just prior to the global financial crisis, to about 6 percent in 2014. However, the normalization of monetary policy in higher-income countries, especially the US, will constrain the possibility of a further reduction in the effective nominal interest rate—and thus interest payments as a share of GDP—over the next few years.

Table 2.6: Public Sector Expenditures, 2004-2014 (in real terms and as a % of GDP)

	2004-2014 Annual Growth Rate	2004 % of GDP	2014 % of GDP
Total Expenditures	5.0	20.7	26.6
Programmable Expenditures	5.8	15.3	21.0
Current Expenditures	5.0	12.4	15.8
Wage Bill	2.4	6.0	6.0
Pensions	8.6	1.7	3.1
Subsidies	7.5	1.8	2.9
General Services and Others	5.4	2.9	3.9
Capital Expenditures	8.6	2.9	5.2
Non-programmable Expenditures	2.6	5.5	5.6
<i>Participaciones</i>	4.6	2.8	3.4
Financial Cost	0.7	2.4	2.0

Source: World Bank staff estimates based on SHCP and INEGI

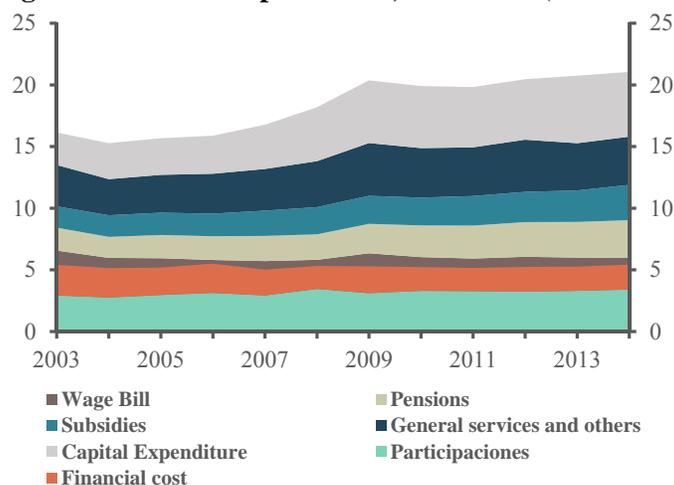
39. **The composition of programmable public spending has shifted substantially toward pensions, subsidies and capital expenditures.** The economic classification of public spending presented in Table 2.6 and Figure 2.7 reveals the significant and steady growth of public spending on pensions, subsidies and capital expenditures. Budget allocations for these categories increased at more than three times the GDP growth rate over the past decade.

40. **These trends in public spending reveal policy preferences and spending pressures over the past decade, some of which may continue in the near term.** The cost of pension payments will increase significantly over the next few decades as the population ages. Meanwhile, the expansion of social assistance and federal support for housing, agriculture and small and medium enterprise development are driving an increase in subsidies. Finally, expanding capital investment in the oil sector and its inclusion in

¹⁸ This refers to the cost of interest payments on the budget. As referred to in Table 2.2 Table 2.2 adjusted interest payments of the federal public sector, including adjustments for indexed debt, IPAB, FONADIN and the debtors support program, amount to about 3 percent of GDP.

the federal public sector budget is largely responsible for the overall increase in capital spending. Capital spending outside the oil sector also increased substantially, though it started from a low base in the late 1980s and 1990s. Increased infrastructure investment in areas such as electricity, transportation, and water and sanitation may reflect efforts to address unsatisfied demand and establish a foundation for future growth. Finally, it is important to note the remarkable trajectory of the overall wage bill, which has remained almost perfectly consistent with GDP growth.

Figure 2.7: Public Expenditures, 2004-2014 (% of GDP)



Source: World Bank staff estimates based on SHCP and INEGI

41. **Examining the allocation of public spending by sector deepens the analysis of policy preferences and spending pressures.** A breakdown of programmable public spending by functional budget classification confirms some of the trends described above, including the substantial expansion in pension spending under the category of social protection, as well as increased investments in the oil and power sectors and in transportation infrastructure. Health sector spending has also increased rapidly as a share of GDP, as has spending on public security and, to a lesser extent, public education. The former is assessed in detail in Chapter 7 of this Public Expenditure Review, which finds that the rapid expansion of *Seguro Popular*¹⁹ has been the primary driver of growth in public health expenditures over the past decade, though as the program is now approaching full coverage of its intended beneficiaries its pressure on expenditure growth is likely to ease. Nevertheless, a combination of technological progress and demographic aging is projected to continue to increase public healthcare spending as a share of GDP in both advanced and emerging economies.²⁰ The challenges posed by rising rates of crime and violence have prompted a major increase in public spending on public security, which is examined in Chapter 12. While the analysis highlights opportunities to enhance expenditure efficiency in this area, the trajectory of spending in the sector will be based largely on future policy decisions that are inherently difficult to predict. Federal spending on education has increased more modestly, as described in Chapter 8. This is partially explained by the large share of the wage bill in public education spending. However, the universalization of secondary education and rising demand for better education quality are likely to further increase public spending on education as a share of GDP. Subnational governments play a significant role in the education, health and public security sectors, and in addition to a rise in earmarked transfers, which is included in this functional classification of federal programmable public spending, subnational governments are increasing spending in these areas out of their *participaciones* and own-source revenues.

¹⁹ *Seguro Popular* is a publicly funded health insurance program for those not covered by work-related health insurance.

²⁰ IMF, 2010

Table 2.7: Programmable Public Sector Expenditures, 2004-2014 (% of GDP)

	2004-2014 annual rate of growth	2004 % of GDP	2014 % of GDP
Total	5.8	15.3	21.0
Autonomous entities	6.2	0.4	0.5
Social development	5.4	9.0	11.9
Education	3.4	3.3	3.7
Health	5.1	2.1	2.7
Social Protection	8.0	2.2	3.7
Housing	4.4	1.2	1.5
Other	19.3	0.1	0.3
Economic Development	6.2	4.7	6.8
Energy	6.5	3.4	5.1
Communications and Transport	8.7	0.3	0.6
Agriculture	3.7	0.5	0.6
Science, technology and Innovation	8.1	0.2	0.3
Other	0.6	0.2	0.2
Government	5.5	1.2	1.6
Citizen security and justice	10.5	0.2	0.5
National security	6.9	0.4	0.5
Financial Affairs	3.9	0.4	0.5
Other	-1.6	0.2	0.1
Stabilization funds	n.a	n.a.	0.1

Source: World Bank staff estimates based on *Cuenta Pública* (SHCP) and INEGI

42. **Despite extensive reforms to the pension system, public pension spending has continued to increase rapidly.** The country's main private-sector workers pension system (IMSS) and public-sector workers pension system (ISSSTE) were switched from a defined-benefit to a defined-contribution scheme in 1997 and 2007, respectively. These reforms also shifted the systems from a pay-as-you-go scheme, in which contributions from current workers finance the benefits of current retirees, to a fully funded scheme, in which contributions are channeled into individual accounts and invested in assets to finance future benefits. The change from a defined-benefit to a defined-contribution scheme should enhance the sustainability of the social security system and reduce its fiscal cost by better aligning benefits with contributions. However, the change from a pay-as-go scheme to a fully funded scheme creates a significant transition cost for the public sector, as the contributions of current workers are no longer available to pay benefits for current retirees. Depending on the design of the reform, completing this transition could take 40 years or more.

43. **Workers who were already participating in the pension scheme at the time of the reform will still be able to accrue benefits according to the more generous rules of the defined-benefit system.** Individuals who contributed to the IMSS-administered private sector workers pension system before 1997 are allowed to opt for a pension based on either the rules of the previous defined-benefit system or the new system of individual retirement accounts funded by defined contributions. If they choose to receive a pension based on the previous rules, the accumulated savings in their individual retirement account will be transferred to the government, which in turn will be responsible for the pension payment. The vast majority of individuals are expected to receive a substantially higher pension under the previous rules due to the

relatively low mandatory contribution to the individual retirement accounts (6.5 percent of wage income). The reform of the ISSSTE-administered public sector workers pension system in 2007 allowed incumbents to select, within a year from the reform, to continue in the defined-benefit system (with some gradual changes to eligibility criteria) or to switch to an individual retirement account (supplemented by a recognition bond for past service). Fewer than 15 percent of public sector workers switched to the new system, but all new entrants are automatically enrolled in the individual retirement account scheme.

44. **Some of the more generous pension regimes for state-owned enterprises have been subject to similar reforms, which also mainly affect the benefits accrued by new entrants.** The reforms to IMSS and ISSSTE set the stage for the reform of the remaining public sector pension systems. Two of the larger systems included in the federal public sector budget (the CFE and the pension fund for IMSS's own workers) have introduced individual accounts for new entrants. Recently, a similar agreement on reform of the PEMEX pension system has been reached.

45. **The lengthy transition from pay-as-you-go, defined-benefit schemes to fully funded, defined-contribution schemes, compounded by the aging of the population, is steadily increasing the cost of pension payments in the federal public sector.** The population aged 65 and older is projected to grow at an average annual rate of 3.6 percent over the next two decades, the fastest pace in Mexico's modern history. The number of elderly people will more than double from 8.3 million to 16.8 million by 2035, and their share in the total population will rise from 6.8 percent to 11.8 percent. Spending on the active pension programs listed in Table 2.8 has already increased rapidly. As a share of GDP, pension payments under these programs increased from 1.4 percent of GDP in 2004 to 2.6 percent in 2014 (excluding the *Adultos Mayores* program, which was introduced in 2008).²¹ More detailed estimates of medium-term pension liabilities are required, though the aging of the population over the next two decades combined with the favorable treatment of this cohort under the reforms indicates that pension costs will rise by about 1 percent of GDP per decade before ultimately peaking between 2040 and 2050. By that time the impact of the reforms on more recent cohorts will start to dominate.

²¹ Overall budgetary pension spending amounted to 3.1 percent of GDP in 2014 and includes government contributions to individual accounts, payments to beneficiaries of now-defunct schemes and the *Adultos Mayores* program.

Table 2.8: Federal Public Pensions in Mexico, 2014

	Pensioners in thousand	Spending		Average annual pension	
		in million pesos	percent of GDP	in pesos	percent of GDP per capita
Federal government					
IMSS private sectors workers	3337.397	166,370	1.0	49,850	35.9
ISSSTE public sector workers	940.843	137,652	0.8	146,307	105.5
ISSFAM military personnel	96	14,532	0.1	151,379	109.1
Adultos mayores (non-contributory pensions)	5487.664	36,478	0.2	6,647	4.8
State own employees					
IMSS owned enterprises	231.851	57,925	0.3	249,839	180.1
CFE	42.058	27,861	0.2	662,442	477.5
PEMEX	104	38,098	0.2	366,330	264.1

Source: World Bank staff estimates based SHCP, IMSS, ISSSTE, ISSFAM, CFE, PEMEX and INEGI

46. **The magnitude of the spending pressures generated by the introduction of a non-contributory pension will depend on the level of the pension benefit and the eligibility criteria.** *Adultos Mayores*, a social assistance program designed to provide a pension payment to elderly people who do not receive a contributory pension was introduced in 2008. Initially restricted to those aged 70 and older, the minimum age was lowered to 65 in 2013. As a result, the number of beneficiaries increased rapidly, rising from 3 million in 2012 to 5.5 million in 2014, or almost 70 percent of Mexicans aged 65 and older. Spending on the program also nearly doubled to 0.2 percent of GDP in 2014. Its current benefit is MXN 580 per month, or 5 percent of GDP per capita. A proposed universal pension law²² would increase the benefit over a 15-year period to the extreme poverty line of MXN 1,092 per month (in 2014 prices) and then index it to consumer price inflation. This would increase the cost of the program from 0.2 percent of GDP to nearly 0.4 percent in ten years, before peaking at just under 0.5 percent between 2030 and 2040. Introducing a dynamic eligibility age (e.g. 0.87 times the average life expectancy) into the proposed legislation would contain program cost to less than 0.3 percent of GDP.

47. **Many state government and public university pension schemes still require reforms to better align benefits with contributions.** Most state governments and public universities have their own pension schemes, several of them modeled on ISSSTE's former defined-benefit scheme. Some of these schemes have gone through relatively minor parametric reforms, bringing benefits closer to contributions. A structural reform program modeled on IMSS and ISSSTE's transition to a fully funded individual account scheme would not only help ensure the long-run sustainability of these pension systems, but would also enhance labor market flexibility due to the portability of the individual accounts. However, this shift would necessarily entail a long and costly transition period, which has thus far stymied efforts at reform.

48. **Additional reforms to the country's pension system will be required to expand its coverage, enhance the equity and adequacy of benefits, and ensure the sustainability of the system.** Reforms to the main public and private sector pension systems have focused on long-term fiscal sustainability. These efforts have had a limited impact on coverage levels, and huge differences in projected pension benefits between those who entered the system before and after the reforms have raised concerns regarding both the fiscal cost of the transition and the adequacy of benefits for new entrants. Additional reforms could focus

²² This law was adopted by the Chamber of Deputies in March 2014 and is currently pending approval by the Senate.

on expanding coverage by incorporating non-contributory social pensions or introducing other adjustments to maintain the adequacy of benefits and the sustainability of the system. The latter could include raising mandatory contribution rates, gradually increasing the retirement age or marginally reducing the benefits of the transition generation, for example by taxing pensions like other forms of income.

FISCAL ADJUSTMENT AND EXPENDITURE RIGIDITIES

49. **Following the sharp decline in oil prices in late 2014 the Mexican government announced its intention to cut public spending in 2015 and 2016 to offset the impact of falling oil revenues.** This policy is consistent with the commitment to fiscal consolidation laid out in the government's Medium Term Fiscal Framework (MTFF), which targets a reduction of the budget deficit and the broader PSBR to 2.0 and 2.5 percent of GDP, respectively, by 2018. The focus of the fiscal adjustment on the expenditure side should be regarded in the context of major tax reforms that took effect in 2014.

50. **A substantial increase in tax revenue mitigated the impact of falling oil prices.** A comparison between the main public finance categories in 2014, current budget estimates for 2015 and the proposed budget for 2016 provides a broader perspective on adjustments to both the revenue and expenditure sides of the budget (Table 2.9).

51. **Lower electricity tariffs and less non-recurrent revenue are contributing to a decline in overall nontax revenues.** A reduction in electricity tariffs as part of the broader reform of the energy sector is reducing the amount of revenue collected by the CFE, and this loss is only partially compensated by lower fuel costs. Meanwhile, other federal nontax revenues are projected to diminish as well. Total estimated federal nontax revenue for 2015 includes the recovery of resources from the FEIP, as well as the expected payout from the oil-price hedge.

Table 2.9: Public Sector Revenue and Expenditures, 2014-2016 (% of GDP)

	2014	2015e	2016p	Change 2014-2016
Revenue	23.2	22.2	21.5	-1.7
Oil	7.1	4.6	4.5	-2.6
Tax	10.5	12.7	12.6	2.1
Income tax	5.6	6.6	6.5	0.9
Value added tax	3.9	3.8	3.8	-0.1
Excise tax on fuels	0.0	1.2	1.2	1.2
Excise tax other products	0.7	0.7	0.7	0.0
Other	0.4	0.4	0.4	0.0
Nontax	5.6	4.9	4.4	-1.2
Federal government	1.7	1.4	1.0	-0.7
IMSS/ISSSTE	1.7	1.8	1.8	0.1
CFE	2.1	1.7	1.6	-0.5
Expenditure	26.4	25.7	24.5	-1.9
Current	15.8	15.2	14.8	-1.0
Wage bill	6.0	6.0	5.9	-0.1
Pensions	3.1	3.0	3.2	0.1
Subsidies	2.5	2.3	2.5	0.0
Operating expenses	4.2	3.9	3.3	-0.9
Capital	5.2	4.6	3.7	-1.5
Physical investment	4.8	4.2	3.6	-1.2
PEMEX	2.1	1.7	1.5	-0.6
Other	2.7	2.5	2.1	-0.6
Financial investment	0.4	0.4	0.1	-0.3
<i>Participaciones</i>	3.4	3.6	3.5	0.1
Interest	2.0	2.3	2.5	0.5
Budget Balance	-3.2	-3.5	-3.0	0.2
PSBR	-4.6	-4.1	-3.5	1.1

e – estimated

p – projected

Source: World Bank staff estimates based on SHCP *Criterios General de Política Económica 2016*

52. **The authorities are adjusting expenditures to reflect the decline in overall revenue.** In January the government announced a plan to cut spending in the existing 2015 budget by 0.7 percent of GDP, with a similar reduction slated for 2016. These spending cuts are largely focused on operating costs and public investment. Operating costs include a wide range of expenditures on procurement of goods and professional services executed through the budgets of federal agencies, through *aportaciones* to subnational governments and, significantly, through state-owned enterprises including PEMEX and CFE, as well as federal social security institutions. However, the majority of the spending cuts will affect investment, with PEMEX capital expenditures bearing the brunt of the reductions in 2015. In 2016 these expenditure cuts will also substantially affect federal investment projects and matching federal subsidies for state and municipal investments. While decreased investment spending often has negative implications for medium-term growth, this effect may be mitigated by a surge in private investment following the liberalization of the energy sector in 2013-2014.

53. **Fiscal consolidation in 2017 and 2018 is expected to occur in a context of rising pension payments and interest costs, which could entail additional spending cuts.** The MTFE targets a further reduction of the budget deficit of 0.5 percent of GDP per year over the 2017-2018 period in an effort to stabilize the deficit at 2 percent of GDP. This would reduce the PSBR to an estimated 2.5 percent of GDP, which is consistent with maintaining the debt-to-GDP ratio within the parameters of the most recent debt sustainability analysis. The MTFE's budget-deficit target is based on the expectation that revenues will remain broadly stable as a percentage of GDP, while substantial reductions in the wage bill, subsidies, operating expenses and capital investment reduce total expenditures. Expenditure adjustments will also be required to create the necessary fiscal space for increased spending on pensions and interest payments.

54. **Broadening the range of expenditures that can be contained or reduced would increase the efficiency of the fiscal adjustment.** Alleviating expenditure rigidity will require policy actions and reforms to legal and contractual obligations that are beyond the scope of the annual budget process. The MTFE does not currently include a proposed policy agenda for achieving its aggregate revenue and expenditure targets. Periodic spending reviews focused on specific sectors, as detailed in Chapter 4, could inform the deeper and more comprehensive expenditure adjustments necessary to permanently enhance the efficiency of public spending.

55. **The Mexican budget contains a moderate-to-high degree of expenditure rigidity that limits the ability of policymakers to rapidly shift budget resources in response to changing circumstances.** This lack of flexibility in the level and composition of spending may reduce the effectiveness of fiscal policy in addressing external shocks. It can also undermine the quality of fiscal adjustment efforts, as expenditure cuts will fall hardest on those sections of the budget that can be more easily modified, such as public investment. Expenditure rigidity can also lead to long-term increases in public spending and erode incentives to improve the allocative efficiency of the budget.

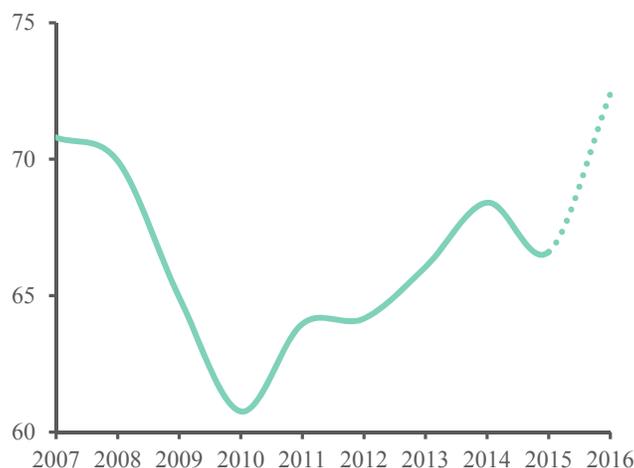
56. **In certain cases, some budgetary inertia may be desirable, as it offers a degree of predictability that can help to ensure compliance with specific fiscal objectives.** Inflexible expenditures can also isolate some spending categories from short-term budget fluctuations or discretionary policy actions. However, extensive expenditure rigidities limit the scope of fiscal policy, increase the complexity of the budget process and prevent the comprehensive realignment of budget priorities. In extreme cases expenditure rigidity may even indicate capture of the budget process by vested interests.²³

57. **Under the LFPRH the annual federal public sector budget proposal must contain an estimate of the total mandatory spending included in the budget.** This estimate is based on the proposed budget allocations for wages and salaries, indigenous population programs, legally mandated transfers to states and

²³ Echeverry, 2006

municipalities, multiannual contractual obligations (including public investment projects), interest payments on public debt and debits from previous fiscal years, 20 percent of the previous year’s current expenditures, liabilities from legal actions and the two federal natural disaster funds.²⁴ According to these estimates, which are presented in a single consolidated figure in an annex to the proposed budget, mandatory spending as a share of total federal public sector spending fluctuated between 60 and slightly over 70 percent from 2007 to 2016 (Figure 2.8). Expenditure cuts slated for 2015 and 2016 focus on non-mandatory spending, and as a result mandatory spending would increase substantially as a share of total spending in the proposed budget for 2016.

Figure 2.8: Mandatory Spending as a Share of Total Federal Public Sector Spending, 2007-2016



Source: World Bank staff estimates based on the SHCP Annual Budget Decree

58. **Expenditure rigidities are institutional constraints on the ability of policymakers to reduce spending or alter the distribution of resources.** Expenditure rigidities may stem from different features of the regulatory regime and involve various legal, contractual and institutional obligations in the public sector. The vast majority of budget components are rigid in the short term, though the entire budget may be more flexible in the long term. Policymakers must be apprised of the scope and impact of expenditure rigidities in order to keep certain types of spending under control and discourage the adoption of legislation that may generate more inflexible commitments. A comprehensive understanding of the different types of rigidities, along with their origins and justifications, should inform the preparation of the annual budget.

59. **Classifying budgetary expenditures according to their legal and institutional origin can help to identify priority policy actions to contain spending and reduce budgetary inertia.** Table 2.10 and Table 2.11 present examples of how this classification system could be applied to the 2015 budget and the proposed 2016 budget, respectively. Expenditure are divided into three categories based on the extent to which they can be altered during the budget process. The first category is “mandatory” expenditures. These are primarily legal and contractual obligations, including interest payments on public debt, pension payments, wages and salaries, and *participaciones* and *aportaciones* transfers. A second category of “largely inflexible” expenditures covers spending items that are subject to the discretion of policymakers in principle, but are extremely difficult to alter in practice. Once allocated in the annual budget these expenditures become entitlements, and in most cases they cannot be reduced or eliminated without an amendment to the budget decree. The budgets of autonomous entities, pharmaceutical procurement in the public health sector, fuel procurement in the energy sector, and numerous subsidies and transfers are all

²⁴ The latter are the Natural Disasters Fund (*Fondo de Desastres Naturales – FONDEN*) and the Natural Disasters Prevention Fund (*Fondo para la Prevención de Desastres Naturales – FOPREDEN*).

classified as largely inflexible expenditures. The third category, “discretionary” spending, is primarily comprised of public investment and operating expenses. These expenditure items are both discretionary in principle and flexible in practice, and as a result spending cuts tend to fall hardest on this category.

Table 2.10: Expenditure Rigidities in the 2015 Budget

	Strict Obligations		Obligations that are fixed or changeable by regular law		Entitlement in the Annual Law		Non-reducible expenses in the Annual Law		Others		Total	
Mandatory	1,759.8	37.1	1,198.5	25.3	0.0	0.0	0.0	0.0	0.0	0.0	2,958.2	62.4
Debt Financial Cost	417.7	8.8										
<i>Federal Government</i>	349.2	7.4										
Public Debt	322.0	6.8										
ADEFAS	16.3	0.3										
Ramo 34	11.0	0.2										
<i>Entities under Direct Control</i>	68.5	1.4										
Pidiregas	17.3	0.4										
Pensions and retirements	536.8	11.3										
Wages and Salaries	773.0	16.3										
Social security payments	4.4	0.1										
Ramo 28			607.1	12.8								
Ramo 33			591.4	12.5								
Ramo 25	10.2	0.2										
Judicial Resolutions	0.3	0.0										
Largely Inflexible	0.0	0.00	0.0	0.00	35.2	0.7	829.7	17.5	26.8	0.6	891.6	18.8
Autonomous Entities					28.5	0.6						
Medicines							72.8	1.54				
CFE-lease services							28.2	0.6				
CFE-Fuels							103.7	2.2				
Programs subject to operating rules							343.4	7.2				
<i>Programa Integral de Desarrollo Rural</i>							13.7	0.3				
<i>Programa de Fomento a la Agricultura</i>							21.5	0.5				
<i>PROSPERA-Programa de Inclusión Social</i>							68.0	1.4				
<i>Programa Nacional de Becas</i>							13.7	0.3				
<i>Programa Escuelas de Tiempo Completo</i>							12.5	0.3				
<i>Pensión para Adultos Mayores</i>							42.4	0.9				
<i>Other programs</i>							171.7	3.6				
Other subsidies							281.6	5.9				
<i>Organismos descentralizados estatales</i>							74.7	1.6				
<i>Seguro Popular</i>							74.8	1.6				
<i>Fondo metropolitano</i>							10.4	0.2				
<i>Proyectos de Desarrollo Regional</i>							21.4	0.5				
<i>Other subsidies</i>							100.3	2.1				
Fondo de Desastres Naturales					6.6	0.1						
Functions of the Armed Forces									26.8	0.6		
Discretionary	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	889.3	18.8	889.3	18.8
Public Investment									589.5	12.4		
Investment subsidies									0.2	0.0		
Financial Investment									22.0	0.5		
Physical Investment									567.4	12.0		
Federal Government									165.5	3.5		
PEMEX									366.4	7.7		
CFE									26.6	0.6		
IMSS-ISSSTE									9.0	0.2		
Current Expenditure									299.8	6.3		
Operating expenses									295.7	6.2		
Federal Government									151.7	3.2		
PEMEX									37.3	0.8		
CFE									57.2	1.2		
IMS-ISSSTE									49.5	1.0		
Subsidies									4.1	0.1		
Total Expenditures	1,759.8	37.1	1,198.5	25.3	35.2	0.7	829.7	17.5	916.1	19.3	4,739.2	100.0

Source: World Bank staff estimates

60. **The spending cuts in the revised 2015 and 2016 budgets focus on public investment and operating expenses and, to a lesser extent, subsidy programs.** As expected, expenditure reductions are heavily concentrated in “discretionary” spending, which would shrink from 18.8 percent of the total budget in 2015 to just 15.1 percent in 2016. Meanwhile, the share of “largely inflexible” expenditures would decline from 18.8 percent to 17.9 percent. This decrease reflects the impact of efforts to rationalize public spending and reduce budgetary rigidity, but the disproportionate focus on investment and operating

expenses underscores the importance of continuing to broaden the range of expenditures that are subject to meaningful adjustment.

Table 2.11: Expenditure Rigidities in the 2016 Budget

	Strict Obligations		Obligations that are fixed or changeable by regular law		Entitlement in the Annual Law		Non-reducible expenses in the Annual Law		Others		Total	
Mandatory	1,933.7	40.1	1,295.9	26.9	0.0	0.0	0.0	0.0	0.0	0.0	3,229.6	67.0
Debt Financial Cost	505.5	10.5										
<i>Federal Government</i>	422.9	8.8										
Public Debt	370.2	7.7										
ADEFAS	32.0	0.7										
Ramo 34	20.6	0.4										
<i>Entities under Direct Control</i>	82.7	1.7										
Pidiregas	18.2	0.4										
Pensions and retirements	608.1	12.6										
Wages and Salaries	785.5	16.3										
Social security payments	4.5	0.1										
Ramo 28			679.4	14.1								
Ramo 33			616.5	12.8								
Ramo 25	11.7	0.2										
Judicial Resolutions	0.1	0.0										
Largely Inflexible	0.0	0.0	0.0	0.0	45.1	0.9	789.6	16.4	27.4	0.6	862.1	17.9
Autonomous Entities					35.3	0.7						
Medicines							76.4	1.6				
CFE-lease services							27.2	0.6				
CFE-Fuels							95.3	2.0				
Programs subject to operating rules							336.7	7.0				
<i>Programa Integral de Desarrollo Rural</i>							9.4	0.2				
<i>Programa de Fomento a la Agricultura</i>							21.5	0.4				
<i>PROSPERA-Programa de Inclusión Social</i>							75.3	1.6				
<i>Programa Nacional de Becas</i>							14.2	0.3				
<i>Programa Escuelas de Tiempo Completo</i>							10.6	0.2				
<i>Pensión para Adultos Mayores</i>							39.4	0.8				
<i>Other programs</i>							166.4	3.5				
Other subsidies							254.0	5.3				
<i>Organismos descentralizados estatales</i>							77.1	1.6				
<i>Seguro Popular</i>							75.4	1.6				
<i>Fondo metropolitano</i>							10.4	0.2				
<i>Subsidios a las Tarifas Eléctricas</i>							30.0	0.6				
<i>Other subsidies</i>							61.1	1.27				
Fondo de Desastres Naturales					9.8	0.2						
Functions of the Armed Forces									27.4	0.6		
Discretionary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	730.2	15.14	730.2	15.1
Public Investment									451.5	9.4		
Investment subsidies									5.9	0.1		
Financial Investment									9.6	0.2		
Physical Investment									436.0	9.0		
Federal Government									116.0	2.4		
PEMEX									293.1	6.1		
CFE									19.0	0.4		
IMSS-ISSSTE									7.9	0.2		
Current Expenditure									278.7	5.8		
Operating expenses									274.6	5.7		
Federal Government									129.8	2.7		
PEMEX									44.1	0.9		
CFE									52.5	1.1		
IMS-ISSSTE									48.2	1.0		
Subsidies									4.1	0.1		
Total Expenditures	1933.7	40.1	1295.9	26.9	45.1	0.9	789.6	16.4	757.6	15.7	4821.9	100.0

Source: World Bank staff estimates

61. **Curbing the long-term increase in mandatory spending, which has been largely unaffected by the recent fiscal adjustment, will require policy actions beyond the scope of the annual budget process.** While the authorities have made efforts to increase the malleability of entitlements and other effectively inflexible expenditures, the share of mandatory spending has steadily increased. The 2015 and proposed 2016 budgets would continue this trend, and mandatory spending is expected to expand from 62.4 percent of the total budget in 2015 to 67 percent in 2016.

62. **Most mandatory expenditures stem from long-term legal and contractual obligations, making them difficult to adjust in the short term.** Trends in mandatory spending are driven by a diverse mix of policy actions. Wages and salaries, which exhibited the lowest nominal increase between 2015 and 2016, can be adjusted in a relatively short timeframe and are largely within the purview of the executive branch. Intergovernmental transfers, however, are less malleable. While *participaciones* are automatically adjusted during the budget year to reflect actual revenues, *aportaciones* are fixed at the time of budget approval. Both transfers greatly increase budget inertia, as they make up more than a quarter of total federal public sector expenditures, and any adjustment to these transfers would require revising the fiscal coordination law. Pension spending has contributed the most to the overall increase in mandatory spending, and it is expected to continue driving the growth of mandatory spending over the next two decades. Efforts to modify the net fiscal impact of pensions tend to have long lead times and may require legislative reforms. Finally, interest payments on public debt are largely determined by the stock of public debt and the amounts and terms of previous borrowing, neither of which are likely to be alterable in the short term.

63. **The government has several options for strengthening its medium-term fiscal planning framework.** There is a rich international literature on the institutional arrangements for presenting, prioritizing and managing public revenues and expenditures from a multiyear perspective. Establishing a medium-term budget framework could help the government overcome some of the limitations imposed by expenditure rigidities and budgetary inertia by extending the time horizon over which the impact of policies is taken into account. Mexico's current MTFP is correctly focused on maintaining aggregate fiscal discipline, but it could be further enhanced by the use of more detailed projections for future spending. This could both promote a more efficient distribution of resources between sectors and programs, and incentivize greater technical efficiency in the use of resources within sectors and programs.

CONCLUSIONS AND RECOMMENDATIONS

64. **An evolving macroeconomic outlook may affect the timing and pace of the fiscal adjustment process, but a moderate debt burden and favorable debt profile will allow for a gradual approach to fiscal consolidation.** The additional deficit financing accessed via the escape clause of the balanced budget rule in 2014 will be phased out over a three-year period. The government's planned expenditure adjustments are not designed to accelerate this consolidation, but rather to compensate for the short-term impact of falling oil revenues. A further, more modest consolidation effort may be required over the medium term to ensure a downward-sloping debt trajectory. The recently expanded concept of the PSBR (or adjusted primary balance) should be used to more accurately measure and communicate progress in achieving and maintaining aggregate fiscal discipline.

65. **If the government were to advance its fuel-price liberalization process by switching to a fixed per-unit excise tax on fuel, it could lock in revenues at their current level.** As part of its energy sector reform program the authorities announced plans to open the retail fuel market to private firms and liberalize fuel prices by 2018. Policymakers should consider accelerating the liberalization process by shifting from a fixed sales price with a fluctuating excise tax to a fixed excise tax with a fluctuating sales price. Swift action would enable the government to lock in excise tax revenues at their current level of approximately 1 percent of GDP.

66. **Additional reforms will be necessary to expand pension coverage, enhance the adequacy and equity of benefits and reinforce the sustainability of the pension system.** Recent reforms have focused on managing long-run fiscal costs. However, inadequate coverage levels and large differences in projected benefits between those who entered the system before and after the reforms have raised serious concerns regarding the adequacy and equity of pension benefits, as well as the fiscal cost of the transition to a fully funded scheme. Coverage could be expanded by incorporating non-contributory pensions into the national pension framework, while adjustments to the contribution rate, a gradual increase in the retirement age and

the taxation of pensions like other forms of income could mitigate some these concerns. The defined-benefit pension regimes still used by some public enterprises, state governments and public universities, will require comprehensive reforms to align benefits with contributions or current labor market conditions.

67. **The expenditure consolidation planned for 2015 and 2016 focuses on public investment and operating expenses, but a broader realignment in expenditure policies will be necessary to manage secular fiscal trends.** Budgetary inertia and rigidities are evident at both the aggregate and sector levels. Mandatory expenditures represent 60-70 percent of the budget, while another 20 percent is comprised of technically discretionary but effectively inflexible expenditures. Expenditure rigidity hinders the government's ability to reallocate resources in response to evolving priorities or to reflect impact assessments of existing programs. However, broadening the range of expenditures that are subject to short-term adjustment will require policy actions and legal reforms that extend far beyond the annual budget cycle. The MTFF should be complemented with an agenda of specific policy actions designed to achieve its revenue and spending targets. A medium-term budget framework should include more detailed expenditure projections to extend the time horizon over which the impact of policies is taken into account. And policymakers should draw on regular sectoral spending reviews to define and implement strategies for strengthening expenditure controls and enhancing the allocative efficiency of public spending. Efficiency improvements will be vital to overcome the limitations imposed by expenditure rigidities and budgetary inertia, enabling the Mexican government to proactively address the challenges posed by a secular increase in spending pressures.

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MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 3: Fiscal Decentralization and Subnational Public Finances



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EXECUTIVE SUMMARY

Mexico's three-tiered federal republic comprises a central government, 32 sovereign states, and 2,457 municipal governments. A set of laws, rules, and institutions known as the fiscal federalism framework allocates tax and spending responsibilities among the three levels of government. This framework also defines the intergovernmental transfer system and regulates borrowing by state and municipal governments.

Subnational governments play a critical role in Mexico's public expenditure system. States and municipalities shoulder much of the responsibility for providing essential public services, including education, health and social protection, and expenditures by subnational governments represent half of total public spending. Consequently, enhancing the efficiency of subnational public expenditure management is critical to improving the overall quality of public spending and maximizing its impact on growth, equity and poverty reduction.

Fiscal federalism arrangements have a major influence on the financial sustainability of subnational governments and the quality of subnational public spending. The ability of states and municipalities to raise own-source revenues, the transfers they receive from the federal government and the borrowing constraints they face all affect the level, composition and effectiveness of subnational spending. These elements of fiscal federalism have developed gradually over time, often in response to temporary conditions or to achieve specific policy objectives. Consequently, the system's individual components are not always aligned with the overarching fiscal objectives of either the federal or subnational governments. In this context, the following analysis is designed to provide a more comprehensive assessment of Mexico's fiscal federalism framework and evaluate the efficiency, equity and impact of the system as a whole.

Methodology

The analysis presented in this chapter is based on the concept of the "fiscal decentralization diamond." This analytical methodology examines the relationship between the four dimensions of public finance management in decentralized systems: (i) revenue generation, (ii) expenditure responsibilities, (iii) intergovernmental transfers, and (iv) borrowing. These facets of the diamond influence each other in complex ways. For example, the asymmetry between subnational revenue generation and expenditure responsibilities causes a vertical fiscal gap, which increases subnational governments' reliance on intergovernmental transfers. However, the availability of those transfers also affects revenue collection incentives of recipient governments and impacts the quality of subnational spending.

Main Messages

Fiscal federalism in Mexico is characterized by large vertical and horizontal imbalances. The low tax collection efficiency and significant expenditure responsibilities of subnational governments have resulted in a large vertical fiscal gap, as subnational spending routinely exceeds subnational revenue. This gap is bridged by transfers from the federal government and, recently, by a rise in subnational indebtedness. In addition, sharp regional disparities in socioeconomic conditions have created horizontal fiscal imbalances, as different subnational governments have widely divergent fiscal capabilities. While intergovernmental transfers can attenuate these disparities, large regional differences in the cost of providing essential public goods and services continue to pose a significant challenge to the sustainability of the fiscal federalism framework.

Mexico has one of the largest vertical fiscal gaps among comparable countries. The centralization of revenue collection at the federal level combined with the decentralization of expenditures at the state level has widened this gap over time. Subnational revenues currently equal 1 percent of GDP and cover just 10 percent of subnational expenditures. Federal transfers amounting to a remarkable 8 percent of GDP finance

most of the remaining 90 percent of subnational spending. Subnational governments in the country's less-developed regions are especially dependent on transfers, which in some cases finance more than 95 percent of subnational spending.

The small share of subnational revenues results from a combination of limited tax authority and low collection efficiency. As a result of the assignment of tax collection responsibilities agreed in the National System of Fiscal Coordination, the largest tax bases—income and consumption—are the purview of the federal government, and subnational governments exploit more marginal revenue sources. Moreover, insufficient administrative capacity prevents subnational governments from fully leveraging their already limited tax bases, and a heavy reliance on intergovernmental transfers diminishes incentives to improve collection efficiency.

While the large vertical fiscal gap makes intergovernmental transfers necessary, the dominant share of transfers in subnational finances, as well as their complexity, fragmentation and regional inequality, negatively impact the quality of subnational spending. Dependence on transfers can undermine efficiency and accountability among subnational governments by weakening the connection between taxpayers and governments that provide public goods and services. In addition, the allocation criteria used by each individual transfer mechanism include multiple objectives, and a large number of conditional transfers are earmarked for a specific purpose, greatly increasing the complexity of the transfer system. Finally, while revenues raised by the federal government in wealthier regions are transferred to poorer ones, the distribution formula for the largest revenue-sharing mechanism is not designed to achieve interregional equity, and the allocation criteria for most conditional transfers do not reflect regional disparities in service delivery.

Reforms to subnational borrowing regulations in the 2000s expanded access to credit by subnational governments. These included an explicit no-bailout commitment by the federal government, the introduction of subnational Master Trust Funds, the linking of subnational credit ratings and capital-risk weights for private bank loans in order to incorporate idiosyncratic risks into borrowing costs, and the requirement that all subnational loans be registered with the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público, SHCP*). In addition, the gradual adoption of the General Accounting Law, which establishes common accounting and reporting requirements, has improved access to reliable information on subnational debt. Nevertheless, in a context of increasing expenditure pressures, low revenue capacity and weak tax-efficiency incentives, greater access to credit markets has generated a rapid increase in subnational indebtedness.

Subnational debt has grown continuously and substantially since 2008. In the wake of the global financial crisis the Mexican economy slowed dramatically, tax revenues fell and federal transfers to subnational governments dropped by 20 percent. Faced with large mandatory spending obligations and a limited ability to increase own-source revenues, subnational governments turned to borrowing, and state-level debt rose from 1.7 percent of GDP in 2008 to 2.2 percent in 2010. This trend continued even as the effects of the crisis subsided, and subnational debt reached 3.1 percent of GDP in 2014. Tighter borrowing restrictions on highly indebted states recently adopted and the improvement in subnational fiscal balances resulted in a slight reduction of the subnational debt to GDP ratio to 2.9 percent in 2015.

Conclusions and Recommendations

The authorities are working to strengthen the quality of subnational spending by reforming public financial management systems, intergovernmental transfer policies and regulations on subnational debt. These reforms are focused on building the own-source revenue capacity of subnational governments, enhancing the efficiency and accountability of the fiscal transfer system, promoting greater interregional equity, and establishing controls on subnational indebtedness to ensure financial sustainability at the state

and local levels. The authorities are also attempting to strengthen the insolvency framework for subnational governments.

Combining improvements in tax-collection efficiency with expanded tax bases could greatly increase own-source revenue generation at the subnational level. While improving collection rates for existent subnational payroll (*nómina*), motor vehicle use and ownership (*tenencia*) and property (*predial*) taxes would be an important short-term step, over the longer term the subnational tax base should be expanded through the addition of a final sales tax, or through a surcharge added to the existing federal income or value-added taxes.

Transfers will continue to play a central role in Mexico's fiscal federalism framework, but significant reforms will be necessary to increase their efficiency, equity and impact. The government should simplify the overly complex allocation criteria for non-earmarked revenue-sharing transfers (*participaciones*) with the objective of promoting fiscal equalization between the states. Earmarked transfers (*aportaciones*), which are primarily focused on health and education, should be allocated according to the relative needs of each state rather than the number of federal teachers, schools, health workers and hospitals, or other supply-side criteria. The formulas used by different transfer mechanisms should be simplified and harmonized based on clearly defined objectives, and small single-purpose transfers should be consolidated.

Strengthening subnational indebtedness controls and ensuring that subnational governments face a hard budget constraint are critical to maintaining sustainable subnational debt dynamics. The aggregate subnational debt stock is relatively low, but if state and municipal borrowing is not brought under control, subnational indebtedness could become a source of fiscal vulnerability at the national level. The proposed Fiscal Discipline Law for Subnational Governments could provide a more effective legal basis to regulate subnational borrowing and promote sound public financial management across the federal system. In particular, imposing limits on borrowing by subnational governments on the basis of selected fiscal indicators would help to ensure long-run debt sustainability.

Maintaining effective subnational indebtedness controls will require improvements in financial reporting and accounting systems. While the General Government Accounting Law has increased financial transparency, limited data availability and incomplete standardization across subnational governments hinder both the ability of creditors to assess financial risk and the capacity of policymakers to address weaknesses in the fiscal framework. The lack of disaggregated information on debt-service payments and inconsistencies in debt reporting are especially serious concerns. Moreover, data limitations, inadequate reporting requirements and inconsistent accounting methodologies across state and municipal governments inhibit the development of an efficient subnational debt market and undermine regulations on subnational indebtedness. At this respect, the Fiscal Discipline Law for Subnational Governments states very clear regulations and guidelines that are expected to enhance public finance management systems and fiscal accounting.

INTRODUCTION

1. **Mexico's fiscal federalism arrangements have a strong impact on the quality of public spending at both the federal and subnational levels.** The rules and institutions governing tax assignments, intergovernmental transfers and borrowing by state and municipal governments influence expenditure patterns at each of the three levels of government. Moreover, transfers to states and municipalities directly affect the sustainability, efficiency and equity of federal spending. A large proportion of federal revenues are passed on to subnational governments through revenue-sharing transfers (*participaciones*), which are automatic, constitutionally mandated and once transferred are beyond the control of the federal government. As part of an effort to improve service delivery, the decentralization of key public services over the last two decades has been increasingly supported by earmarked federal transfers (*aportaciones*), which finance a large portion of state and local spending on education, health and public security. These transfers are classified as discretionary (or “programmable”) spending, and they can in principle be altered. In practice, however, their contractual nature renders them effectively mandatory, and federal authorities exert little meaningful control over their use or the spending they finance. Consequently, both *participaciones* and *aportaciones* add rigidity to the federal budget, and their effectiveness hinges on the policies of subnational governments.

2. **Subnational governments play a critical role in Mexico's public expenditure system.** During the 1990s, substantial responsibility for the provision of essential public services such as education, healthcare and basic infrastructure was transferred to the states and municipalities. The robust expansion of the public education and health sectors in the 2000s, coupled with the evolving priorities of the social assistance and security sectors, further contributed to the decentralization of expenditures. Combined, Mexico's subnational governments now spend more than the federal government, and improvements in expenditure management at the subnational level will be critical to enhancing the efficiency, equity and impact of public spending.

3. **The fiscal federalism framework has a major influence not only on the distribution of expenditures, but also on the quality of service delivery.** Whether subnational governments finance their spending through own-source tax revenues, federal transfers or borrowing has important implications for the efficacy and accountability with which public goods and services are provided. Intergovernmental transfers seek to bridge the gap between local governments' limited capacity to raise revenues and their much larger expenditure responsibilities. However, they can also create perverse incentives. Overreliance on intergovernmental transfers can undermine expenditure efficiency, and the international experience has shown that a large share of transfers in state or local budgets tends to undermine the collection of own-source revenues. Moreover, recent research on fiscal decentralization suggests that a heavy reliance on transfers is also associated with excessive subnational indebtedness. In this context, the increasingly prominent role of subnational governments in Mexico's public expenditure system underscores the importance of their fiscal behavior to the country's overall macroeconomic stability.

4. **Improving the quality of public spending in general, and subnational spending in particular, will require reforms to Mexico's fiscal federalism framework.** This includes revisions to the tax system designed to increase the ability of subnational governments to raise their own revenues, measures to reduce pressures to further increase transfers in order to finance the continued expansion of decentralized service delivery, improvements in intergovernmental transfer mechanisms promoting horizontal fiscal equalization, the provision of adequate efficiency incentives for subnational governments, and the establishment of borrowing controls to ensure long-term fiscal sustainability at the subnational level.

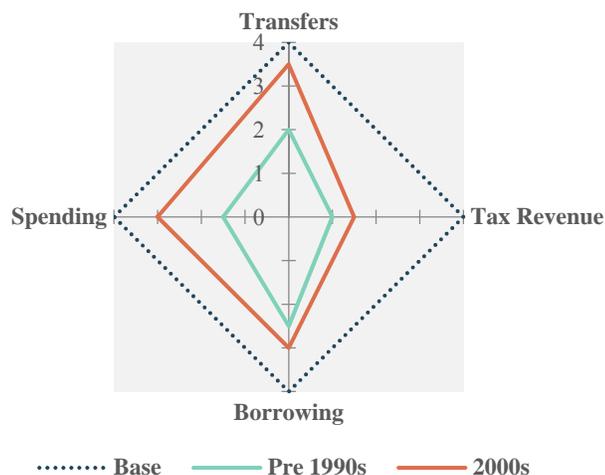
5. **This chapter is organized into five sections.** Following the introduction, the second section analyses recent trends in fiscal decentralization in Mexico. The third focuses on subnational taxation and explores options to increase own-source revenue collection. The fourth assesses the equity and efficiency

of the intergovernmental transfer systems. The fifth and final section analyses subnational indebtedness and evaluates recent efforts to establish fiscal rules for subnational governments designed to ensure their fiscal sustainability.

FISCAL DECENTRALIZATION IN MEXICO

6. **Mexico’s fiscal decentralization over the past two decades has primarily focused on expenditures rather than revenues, whose generation remains highly concentrated at the federal level.** In the early 1990s both tax and spending responsibilities were highly centralized. Over the last two decades, public spending has been largely decentralized, and as a result, the share of subnational spending in total public sector spending rose from 20 percent in 1990 to more than 50 percent in 2012. However, this has not been accompanied by a corresponding decentralization in revenue collection. Instead, intergovernmental transfers have become critically important in financing subnational governments’ expenditures. Moreover, while overall subnational borrowing levels remain relatively modest, since 2008 subnational governments have increasingly turned to borrowing to finance most of their capital spending needs (Figure 3.1).

Figure 3.1: The Fiscal Decentralization Diamond, 1990-2010¹



Source: World Bank staff

7. **The limited tax base available to subnational governments and their generally low collection efficiency have hindered the decentralization of tax revenues.** Consumption or indirect tax bases are typically the most important sources of state and local tax revenue, but in Mexico these sources are exclusively controlled by the central government through the federal income tax, the value-added tax (VAT) and excise taxes. Subnational governments are left with the authority to levy taxes on payroll, motor vehicles, lodging services and urban property. As a result, subnational taxes in Mexico equal less than 1 percent of GDP and represent less than 10 percent of total tax revenue.² This is very low compared to Argentina (where subnational taxes account for 5 percent of GDP and 16 percent of total tax revenue), Brazil (11 percent of GDP and 30 of total tax revenue) and Canada (16 percent of GDP and 50 percent of total tax revenue).

¹ On the horizontal axis, a greater distance from the origin point indicates higher tax revenues and spending decentralization. On the vertical axis, a greater distance from the origin point represents increased reliance on intergovernmental transfers and borrowing.

² State and municipal governments have additional own-source revenue streams, including user charges and fees, which amount to 0.5 percent of GDP.

Table 3.1: Fiscal Decentralization Trends, 1990-2014

	Subnational Spending		Subnational Tax Revenue		Intergovernmental Transfers		Subnational Debt	
	% of GDP	% of Total Government	% of GDP	% of Total Taxes	% of GDP	% on Total SNG's Revenue	% of GDP	% of No-earmark Transfers
1990	-	21.2	0.41	-	-	-	-	-
1995	5.9	27.7	0.49	3.3	-	-	2.0	-
2000	8.1	39.8	0.47	2.8	4.7	86.3	1.7	-
2005	9.7	53.4	0.56	4.2	5.8	82.3	1.7	-
2008	11.2	53.5	0.62	5.3	7.9	78.4	1.7	48.3
2010	12.0	50.6	0.66	4.8	8.6	78.6	2.2	64.9
2012	11.8	50.8	0.80	6.4	9.8	81.7	2.7	79.3
2014	n.a	n.a	n.a	n.a	11.4	n.a	3.1	89.6

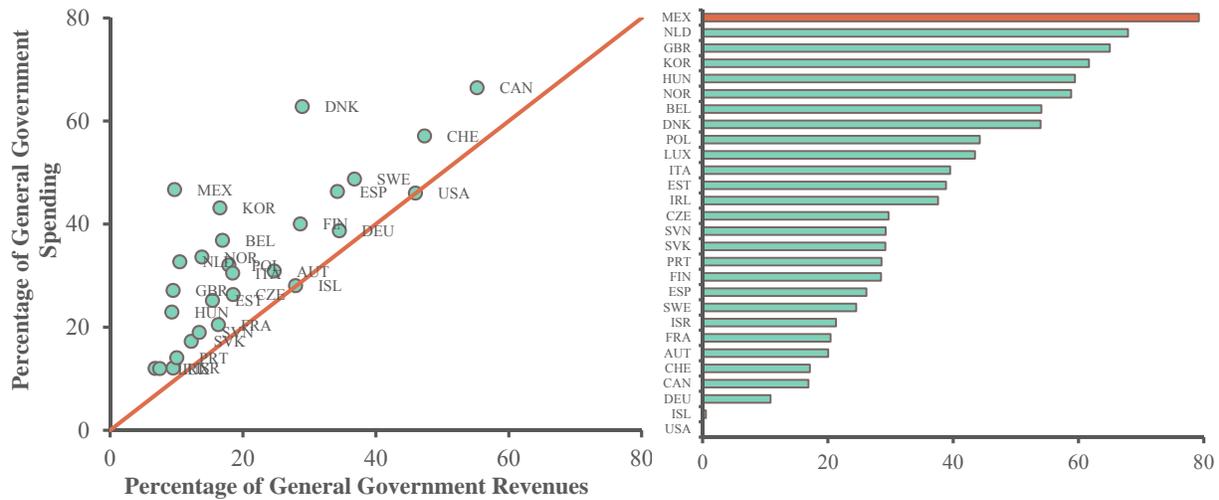
Source: *Secretaría de Hacienda y Crédito Público (SHCP), Instituto Nacional de Estadística y Geografía (INEGI)*

8. **Mexico's relatively low level of subnational tax revenue is also due in part to the reluctance of subnational governments to exploit new revenue sources, as well as their limited collection of existing taxes.** In the 2000s several unsuccessful attempts were made to increase subnational tax revenue. These measures included proposals for a subnational final sales tax in 2002, state management of the income tax and small business VAT in 2003, the devolution of the tax on motor vehicles, the introduction of subnational excise taxes on fuel and alcoholic beverages in 2007, as well as a recent proposal to introduce a subnational sales tax, which was rejected by the National Union of Governors in 2012. Moreover, actual collection of existing taxes by subnational governments is well below potential. Generous exemptions, subsidies, inefficiencies in tax administration, out-of-date real estate values, and the simple elimination of taxes by some states and municipalities all contribute to low levels of subnational tax collection.

9. **Differences between revenue and spending decentralization are common in federal systems.** Due to the higher sensitiveness of the major tax revenue sources, such as personal and corporate income taxes and consumption taxes, they can often be more efficiently levied at the federal level. Meanwhile spending on public services is often better managed by subnational governments, who are more intimately familiar with regional and local needs and conditions. The resulting combination of centralized tax collection and decentralized service provision creates vertical fiscal gaps. While, centralized tax collection combined with transfers to subnational governments can maximize efficiency on the revenue side, increasing own-source revenue collection by subnational governments can promote expenditure efficiency by improving accountability and strengthening taxpayer oversight. Moreover, the appropriate balance between subnational taxation and intergovernmental transfers will vary from country to country.

10. **Mexico's vertical fiscal gap is large and potentially problematic.** Subnational governments account for around 50 percent of spending but only 10 percent of tax revenues—the largest vertical fiscal gap among OECD countries. While it is difficult to determine the optimal vertical fiscal gap for each federal system, recent empirical studies indicate that incentives for expenditure efficiency are reduced when fiscal gaps are very large, or when subnational own-source tax revenues are very low. A heavy dependence on transfers can reduce efficiency among subnational governments by externalizing the cost of raising revenue. Transfers can also weaken fiscal discipline, as subnational governments and their creditors may expect the central government to bear the ultimate responsibility for deficits and debt. Finally, limited revenue autonomy reduces the ability of subnational governments to implement fiscal adjustments, because in the absence of revenue-side measures spending cuts are their only available policy instrument.

Figure 3.2: Vertical Fiscal Gaps in OECD Countries



Source: OECD Fiscal Federalism, 2014

Source: World Bank staff calculations based on OECD Fiscal Federalism, 2014

11. **In Mexico, intergovernmental transfers must also address horizontal fiscal imbalances resulting from marked regional socioeconomic disparities.** There are large disparities in socioeconomic development between Mexican states, and especially between the industrialized north, which has a per capita income of US\$11,700 and contributes 26 percent to Mexico’s GDP, and the less developed south, which has a per capita income of US\$9,600 and contributes only 13 percent to GDP. The country’s wealthiest subnational jurisdiction—the Federal District—has a per capita GDP of US\$21,100, which is more than five times that of Chiapas, the poorest state, which has a per capita GDP of just US\$4,100. Poverty and other socioeconomic indicators follow a similar pattern, and these differences are reflected in the strong spatial concentration of tax bases and the even wider differences in tax collection. Own-source revenue per capita in the Federal District is 10 times higher than in Chiapas.³

12. **Large vertical and horizontal fiscal gaps, and the decentralization of service delivery, have made intergovernmental transfers a central element of Mexico’s fiscal federalism framework.** Non-earmarked transfers financed by revenue-sharing mechanisms (*participaciones*) mitigate the significant vertical and horizontal gaps that characterize the Mexican federation. Meanwhile, earmarked federal transfers that finance decentralized service delivery in key sectors (*aportaciones*), which are allocated under the *Ramo 33* budget line, were established to ensure adequate levels of public spending in selected sectors. The system also includes transfers to finance capital investment projects aimed at reducing regional economic disparities or projects addressing regional development objectives through a number of specific funds under *Ramo 23*. In addition, the intergovernmental transfer system comprises matching transfers that are executed through negotiated agreements between the federal government, line ministries, and states and municipalities. Transfers under *Ramo 23* and negotiated transfers tend to be somewhat discretionary, while *participaciones* are mandatory. At about 9 percent of GDP, intergovernmental transfers are by far the most important federal spending category and the most significant revenue source for subnational governments.

13. **Reflecting the evolution of the country’s fiscal decentralization framework, the volume and composition of intergovernmental transfers have changed substantially over the past two decades.** As a result of the progressive decentralization of public services per capita transfers in real terms more than quadrupled between 1992 and 2012. Moreover, following the decentralization of key public sector services

³ Interregional differences in the cost of providing public services can also create horizontal fiscal imbalances.

in the latter half of the 1990s *aportaciones* have grown faster and become more fiscally crucial than *participaciones*. The increasing importance of earmarked transfers in recent years, particularly the growth of transfers under *Ramo 23* and through decentralization agreements, has reduced the autonomy of subnational governments to allocate resources and provide services according to the preferences of their populations.

14. **The rise of intergovernmental transfers has also reduced budget flexibility at the federal level.** Due to the use of *participaciones* as a revenue-sharing mechanism the federal government receives only a fraction of the additional revenues obtained by increasing tax rates, expanding the tax base or improving collection efficiency. Conversely, a reduction in nontax revenues is borne entirely by the federal budget. These dynamics are apparent in the evolution of federal revenues over 2014-15. Increases in income tax and VAT revenues stemming from measures adopted in 2013 automatically benefitted subnational governments, while the drop in oil revenues over the last two years has been disproportionately absorbed by the federal government, since subnational governments are protected against declines in oil revenue by the State Revenue Stabilization Fund (*Fondo de Estabilización de los Ingresos de las Entidades Federativas*). While *aportaciones* are classified as programmable spending, and can technically be altered, they are effectively mandatory in practice and limit the space for spending adjustments at the federal level.

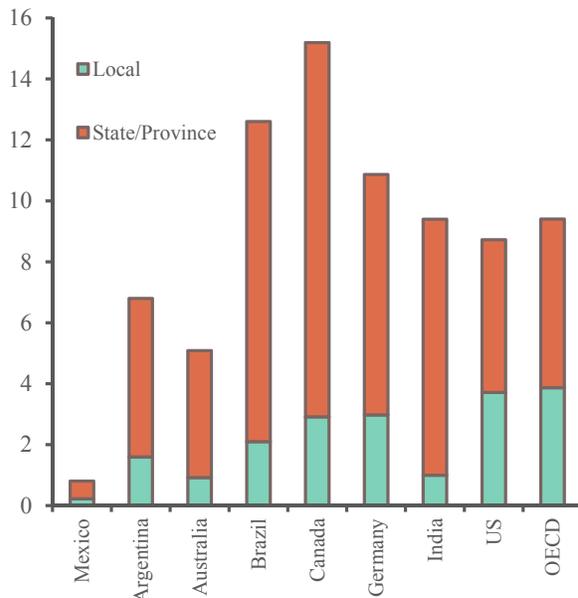
15. **Finally, subnational debt has increased substantially in recent years.** In the wake of the global financial crisis the Mexican economy suffered an abrupt deceleration that reduced federal transfers to states and municipalities by 20 percent, substantially affecting subnational fiscal balances. Faced with large mandatory spending obligations and a limited capacity to boost own-source revenues, states increased their borrowing, and as a result subnational debt rose from 1.7 percent of GDP in 2008 to 2.2 percent in 2010. This trend continued even as the effects of the crisis subsided, and subnational debt reached 3.1 percent of GDP in 2014 and experienced a slight reduction to 2.9 percent of GDP in 2015. While the overall stock of subnational debt remains low and does not represent a systemic risk, an increasing number of states are in need of debt-restructuring operations. In addition, rising debt-service obligations have further reduced many states' already limited fiscal space, necessitating expenditure adjustments to preserve fiscal sustainability.

SUBNATIONAL TAXATION

16. **Low subnational tax revenue is a key feature of fiscal federalism in Mexico.** Subnational tax revenues amount to less than 1 percent of GDP, with state taxes representing 0.6 percent and municipal taxes 0.3 percent. This is far below the average of over 10 percent of GDP observed in other large federations, as well as the 9 percent average in OECD countries (Figure 1.3). Even unitary states in Latin America, such as Chile and Colombia, collect more tax revenue at the regional and local levels.

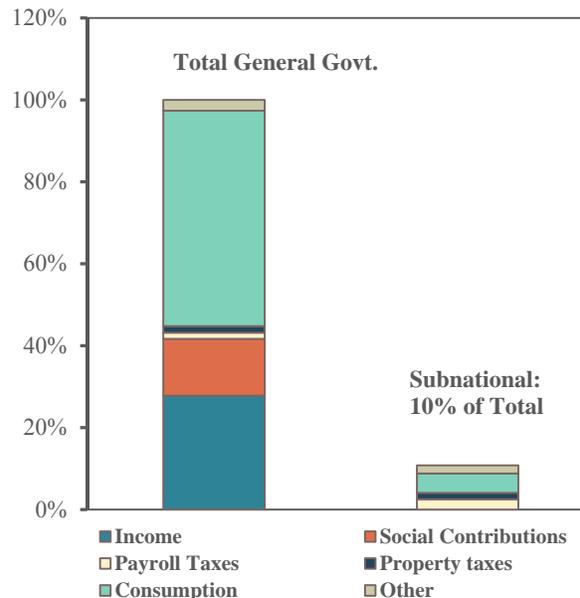
17. **Mexico's federal government collects income and consumption taxes, which together represent more than 80 percent of general government tax revenues, as well as social contributions, which represent 15 percent of total tax revenues.** Payroll taxes and property taxes are the main revenue sources for subnational governments, and each makes up just 2 percent of total tax revenue. States are responsible for collecting the payroll tax (*nómina*), the tax on the use and ownership of motor vehicles (*tenencia*) and taxes on specific services such as lodging, lotteries and public entertainment. Municipal governments collect property taxes (*predial*) and taxes on the acquisition of real estate.

Figure 3.3: Subnational Tax Revenues in Selected Federations and OECD Countries, 2012 (% of GDP)



Source: OECD, IMF

Figure 3.4: Mexico's Tax Revenue Structure, Total and Subnational, 2012 (% of Total)



Source: OECD

18. **The very modest contribution of subnational consumption taxes and the collection of payroll taxes by subnational governments are peculiar features of Mexico's tax system.** Subnational governments in other countries rely much more heavily on consumption taxes, and Mexico is the only country in Latin America in which payroll taxes are collected by state governments. Subnational property taxes in Mexico are also very low at 0.2 percent of GDP, compared to an average of 1.8 percent in OECD countries and 0.8 percent in Latin America.

Table 3.2: State and Local Taxes as a Percentage of General Government Tax Revenues

	Income Taxes	Payroll Taxes	Property Taxes	Goods and Services	Other Taxes	Total
Mexico	0.00	1.50	1.58	0.26	0.21	3.55
Argentina	0.00	0.00	2.25	11.33	0.64	14.23
Australia	0.00	5.04	9.29	5.33	0.00	19.67
Brazil	0.00	0.00	3.74	23.80	2.02	29.56
Canada	17.83	2.12	11.52	15.36	2.74	49.57
Chile	0.00	0.00	2.49	3.69	0.00	6.19
Colombia	0.00	0.00	3.23	7.32	5.52	16.07
Germany	17.13	0.00	2.35	9.76	0.00	29.23
Peru	0.00	0.00	1.84	0.38	2.14	4.36
Uruguay	0.00	0.00	2.50	1.88	0.00	4.38
US	9.05	0.00	12.33	15.18	0.00	36.56

Source: Calculations based on data in OECD (2015), Revenue Statistics in Latin America and the Caribbean and OECD (2012) Revenue Statistics, OECD Publishing, Paris

19. **Subnational revenues remain low despite increases over the last two decades.** The gradual adoption of the payroll tax, the introduction of a subnational share on the excise tax on gasoline and diesel,

the recent devolution of the tax on motor vehicles, and the adoption of taxes on specific services have somewhat strengthened the ability of subnational governments to collect own-source revenues. Nontax revenues such as user fees and licensing and registry fees currently represent more than half of all own-source subnational revenues. The *nómina* and *tenencia* are the most important state taxes, while the *predial* tax represent more than 70 percent of municipal tax revenue. The real estate acquisition tax represents less than 20 percent of municipal tax revenue (Table 3.3).

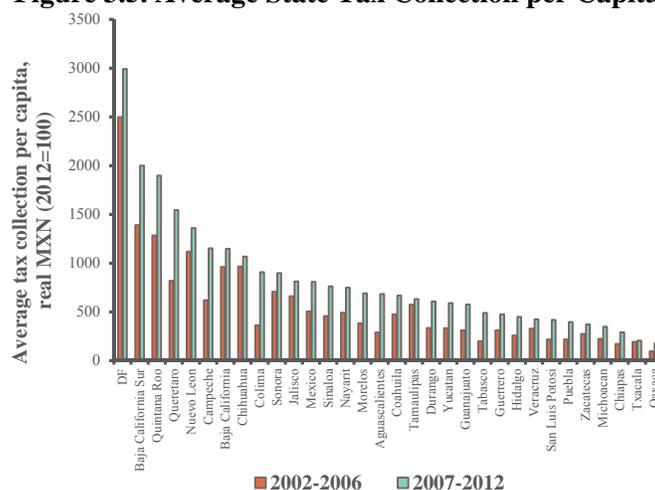
Table 3.3: Evolution of Subnational Own-Source Revenues, 1990-2014 (% of GDP)

	1990	1995	2000	2005	2008	2010	2012
Total Subnational Own-Source Revenues		0.94	0.93	1.29	1.64	1.7	1.9
State Own-Source Revenues		0.6	0.6	0.84	1.13	1.22	1.41
State Taxes	0.26	0.32	0.33	0.37	0.4	0.44	0.58
State Nontax Own-Source Revenues		0.28	0.27	0.47	0.73	0.78	0.83
Municipal Own-Source Revenues		0.34	0.33	0.45	0.51	0.48	0.49
Municipal Taxes	0.15	0.17	0.14	0.19	0.22	0.22	0.23
Municipal Nontax Own-Source Revenues		0.17	0.19	0.26	0.29	0.26	0.26

Source: OECD

20. **Tax revenue collection is highly uneven between states.** Mexican states have significant autonomy in establishing their own tax rates and bases; while the *nómina* was established in the 1970s, it was not collected by all states until 2008. In recent years a number of states have eliminated the *tenencia*, or applied very generous exemptions and subsidies. Coupled with strong regional disparities, this has resulted in highly disparate rates of tax collection. Average state tax collection per capita in Mexico is MXN 600. However, real revenue collection in Baja California Sur and Quintana Roo averaged close to MXN 2,000 per capita in 2007-2012, while in the less-developed states of Zacatecas, Michoacán and Oaxaca it averaged less than MXN 300 per capita (Figure 3.5). The Federal District collects MXN 3,000 per capita due to its administration of both state and municipal taxes and its high property values. Municipal tax collection rates are even more varied, and most revenue is concentrated in a small number of cities.

Figure 3.5. Average State Tax Collection per Capita



Source: BOOST database based on INEGI's *Sistemas Estatal y Municipal de Bases de Datos* (SIMBAD)

State Payroll Tax (Nómina)

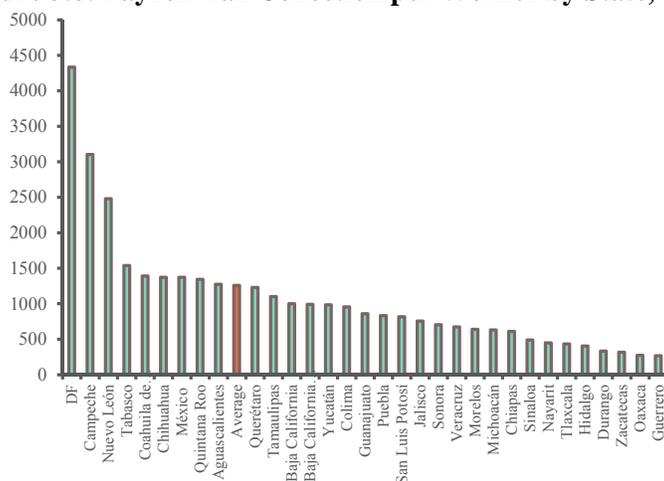
21. **The state payroll tax is a tax on employee wages and salaries that is paid by employers.** It was first introduced in the Estado de México in 1971 and then gradually adopted by other states throughout the

1990s and 2000s before becoming universal in 2008. Payroll tax rates range from 0.5 percent to 3 percent, with most states applying a rate of 2 percent. Chihuahua, the Federal District, Estado de México, Nuevo León, Puebla and Quintana Roo all apply a 3 percent rate. Hidalgo applies a rate of between 0.5 and 2 percent depending on firm size. In some states employees of NGOs, political parties and the public administration are exempt from the *nómina*.

22. **State payroll tax revenues in 2011-13 averaged MXN 433 per employee.** States with a higher GDP per capita tend to collect more per worker (Figure 3.6). States that are relatively richer and have a large industrial base, such as Tabasco, Nuevo León and Querétaro, collect more than MXN 1,000 in *nómina* per employee, while collections in Zacatecas, Oaxaca and Guerrero average less than MXN 300. Campeche’s outlier status is likely due to the presence of the state oil company, *Petróleos Mexicanos* (PEMEX).

23. **While state-level *nómina* collection remains modest, recent improvements have been observed.** In 2012 the Institute for the Technical Development of State Financial Authorities (*Instituto para el Desarrollo Técnico de las Haciendas Públicas*, INDETEC) examined payroll tax collections by state and found that actual collection reached just 58 percent of their potential. INDETEC’s study was replicated and updated by World Bank staff using 2014 survey data from the National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*, INEGI). World Bank calculations suggest that average payroll tax collection has increased modestly to 62 percent of its potential.

Figure 3.6: Payroll Tax Collection per Worker by State, 2014



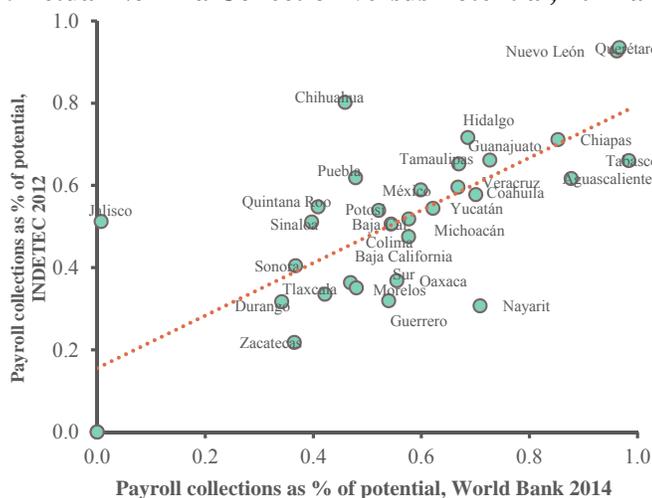
Source: INEGI *Finanzas Públicas Estatales, Encuesta Nacional de Ocupación y Empleo* (ENOE)

24. **Payroll tax collection efficiency varies substantially between states.** Querétaro, Tabasco, Nuevo León, Aguas Calientes and Chiapas have the highest rates of *nómina* collection, all of which increased between 2012 and 2014 (Figure 3.7). Durango, Zacatecas, Sonora and Sinaloa, by contrast, collect just 40 percent of their potential *nómina* revenue.

25. **Inter-state and inter-institutional collaboration, and the adoption of new technologies, are critical to increase payroll tax collection.** Tax competition between states is relatively low, and coordination appears to be improving. For example, Puebla, the Federal District and Estado de México recently coordinated an increase in their *nómina* rates to 3 percent. Many states have signed information-exchange agreements with the Mexican Social Security Institute to cross-check data on formal workers, and many more use INEGI enterprise data to facilitate payroll tax collection. Guanajuato was able to significantly increase *nómina* revenue by comparing social security data against other information sources

such as import registries and excise tax registries. Expanding payment options has also significantly improved subnational tax administration in some states. However, limited technical capacity, incomplete information and outdated payment methods may have contributed to low collection rates in other states.

Figure 3.7. Actual *Nómina* Collection versus Potential, 2012 and 2014



Source: INDETEC and World Bank staff calculations based on INEGI

26. **Encouraging formalization among employees and firms could also help improve payroll tax collection.** An estimated 27 percent of Mexico’s employed population worked in the informal sector in June 2015.⁴ This implies that potential *nómina* revenue could be higher than INEGI estimates suggest. Creating tax collection units to identify informal businesses and incentives for both employees and employers to formalize could greatly expand the tax base. However, the payroll tax effectively increases the cost of labor, and raising tax rates could encourage informality,⁵ suggesting that a more detailed assessment of the sensitivity of the payroll tax base is warranted. Further efforts to integrate payroll data into the social security system could enhance incentives for formalization and expand the payroll tax base.

State Tax on the Use or Ownership of Motor Vehicles (Tenencia)

27. **The tax on the use or ownership of motor vehicles was introduced in 1962; the federal government was responsible for establishing the tax base and rates, and state governments were responsible for collection.** *Tenencia* was initially a per unit tax that varied according to each vehicle’s make and model. In 1992 it was converted to an ad valorem tax with a progressive schedule and a standard rate of 3 percent. Until 2012 *tenencia* and the tax on new car purchases were federally coordinated, with the federal government establishing the tax base and state governments retaining all tax revenues.

28. **In 2012 responsibility for defining the *tenencia* tax base and rates was transferred to the states, but inter-state tax competition led to disappointing outcomes.** A number of states established exemptions and subsidies that eroded the tax base, while some simply eliminated the *tenencia* altogether. Between 2010 and 2012 *tenencia* revenue fell in nominal terms in 17 states (Figure 3.8). Chihuahua, Guanajuato, Jalisco, Morelos and Sonora abolished *tenencia*, Puebla established a 100 percent subsidy on the value of the tax, and Nueva Leon exempted 85 percent of cars. However, the Federal District and Estado

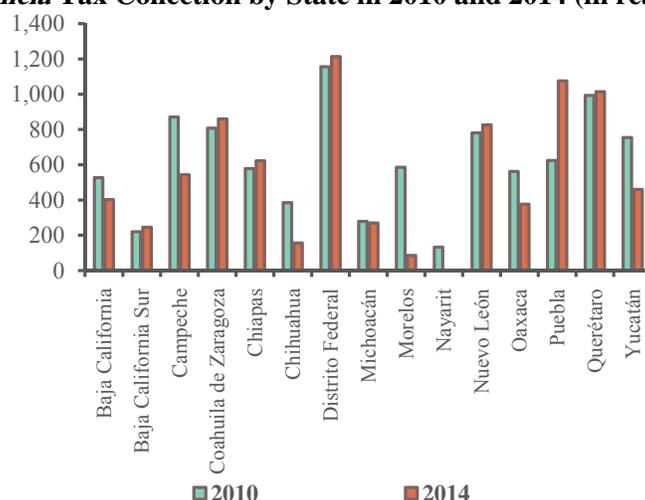
⁴ The International Labor Organization (ILO) defines the rate of employment in the informal sector to augment the total employed population. The ILO TOS11 definition of informality does not include domestic labor or uninsured farming activities, among other areas. Informality rates according to ILO standards were calculated by INEGI in December 2012.

⁵ Antón, Hernández and Levy, 2012.

de México, significantly increased *tenencia* collection. Overall, decentralization reduced *tenencia* revenue by 30 percent, and as a result its contribution to own-source state revenues was less than expected.

29. **The decentralization of the *tenencia* also appears to have reduced overall collection efficiency.** World Bank staff conducted a panel-data regression analysis with state-level fixed effects to estimate the collection efficiency of the *tenencia*, defined as the ratio between actual and potential collections. Potential collections were estimated as a function of the number of cars in each state. Tax efficiency by state was compared in 2010 (when the tax was federally administered) and 2012 (when administration was transferred to the states). *Tenencia* collection efficiency in most states has decreased noticeably since the tax was decentralized. Exceptions include Zacatecas, Baja California Sur, Durango and Puebla, where the ratio of actual to potential collections has increased by roughly a third. Nevertheless, collections in Durango and Puebla are only “virtual,” since a 100 percent subsidy is applied to individual owners. Total estimated foregone *tenencia* revenue amounted to MXN 8.5 billion in 2012, or 0.05 percent of GDP.

Figure 3.8. *Tenencia* Tax Collection by State in 2010 and 2014 (in real MXN millions)



Source: INEGI and World Bank staff calculations

Municipal Property Tax (Predial)

30. **Mexican property taxes are very low compared to other Latin American and OECD countries.** *Predial* revenue in Mexico reached just 0.18 percent of GDP in 2012, well below the 0.5 percent observed in Argentina, Colombia and Chile and the OECD average of 1.8 percent (Table 3.4).

Table 3.4: Property Tax Collection as a Percentage of GDP in Select Latin American Countries and the OECD

Country	2000-07	Country	2000-07
Argentina	0.53	Guatemala	0.14
Bolivia	0.65	Mexico	0.18
Brazil	0.43	Paraguay	0.39
Chile	0.66	Peru	0.17
Colombia	0.5	Uruguay	0.71
Ecuador	0.13	OECD average	1.8

Source: Bahl, Martinez-Vazquez and Young, 2008; and Sepulveda and Martinez-Vazquez, 2011

31. **The *predial* is the largest component of own-source revenue for most municipalities, though own-source tax revenue represents a very small share of municipal expenditures.** On average, own-source municipal taxes equaled just 3 percent of total expenditures in 2008-2012, though this masks a high degree of variation between municipalities.⁶ The median is just 1.3 percent, and in 1,067 municipalities *predial* taxes represent less than 1 percent of total spending. Taxes represent more than 10 percent of expenditures in just 162 municipalities.

32. **Resource limitations and political pressures have constrained *predial* tax collection.** Municipalities with modest administrative resources often find it difficult to maintain up-to-date property registries, or “cadasters.” Even when cadasters are regularly maintained and updated by state governments, weak institutional capacity can still constrain their usefulness. Tax administration units often have few staff with limited technical qualifications. There are also political costs associated with updating property values and enforcing property taxes. The fact that mayors serve a single 3-year term negatively affect the continuity of revenue collection enhancement reforms further hinders property tax collection, as the impact of improvements in tax administration go beyond the 3-year mandates.

33. **Establishing an automatic system for reassessing property values could improve revenue collection in municipalities with limited administrative capacity.** Guanajuato’s *predial* law requires that municipalities update property values in the cadaster every two years. However, most municipalities lack the capacity to update their property registries this frequently. To avoid interference aimed at preventing the revaluation of certain properties, the municipality of León adopted an innovative strategy in which it automatically charges an additional 0.234 percent of the value of properties that were assessed fewer than two years ago and as much as 0.681 percent for properties that have not been revalued for several years. This is an innovative approach, since most municipalities simply adjust properties values for inflation. León has also begun collaborating with realtors to more accurately assess property values.

34. **Discounts for early *predial* payments do not need to be generous to be effective.** Most municipalities offer discounts to owners who pay their property taxes during the first two months of the year. In surveyed municipalities⁷ discounts ranged from 15 percent in the first month and 10 percent in the second month in Guanajuato to 10 percent and 8 percent in León, and 8 percent and 5 percent in the Federal District. Over 80 percent of property taxes are collected during this period. The discount mechanism helps municipalities to both increase their cash flow at the beginning of the year and identify properties that require greater attention for tax collection purposes. In addition, special agreements (*convenios*) with low-

⁶ World Bank BOOST database for Mexico using SIMBAD-INEGI data for 2,457 municipalities.

⁷ This section is based in part on field visits to four municipalities that have implemented successful tax collection efforts: San Pedro Garza García in Nuevo León, León and Guanajuato municipality in Guanajuato, and the Federal District.

income residents allow for installment payments. Both León and the Federal District have begun to steadily decrease their discount rates, and according to the authorities large-scale changes in taxpayer behavior have not been observed. Thus, only modest discounts seem to be required to incentivize early tax payments, while large rebates (up to 25 percent in some areas) could represent unrealized revenue.

35. **Technological advancements have improved property surveying and valuation.** Over the past decade the introduction of new technologies, such as satellite imaging, has helped identify properties that have not been updated in the cadaster. The municipality of León introduced an information system that helped speed the property revaluation process from an average of 10 days in 2009 to 2.5 days in 2014. However, linking state-level property registries with municipal cadasters is an ongoing challenge.

36. **Outdated municipal laws often impede the ability of local governments to pursue aggressive collection measures and foreclosures.** Guanajuato's *predial* law dates back to 1980 and establishes a series of notification requirements aimed at protecting homeowners. These requirements, however, often result in processing delays, documentation errors, and high legal and administrative costs. In the Federal District the local tax authorities notify homeowners of their tax liability, and if the owner disagrees with their assessment, he or she must bear the cost of reassessing the property's value. This eliminates the need for multiple notifications by the municipality.

37. **The federal government incentivizes tax administration agreements between state governments and municipalities.** Many municipalities lack the resources to administer and enforce *predial* collection. States are typically better at administering taxes and can take advantage of economies of scale in collecting property taxes. In the last several years the federal government has increasingly promoted administrative cooperation agreements between state and municipal revenue agencies, with positive results. Since 2015 the Municipal Support Fund's (*Fondo de Fomento Municipal*, FFM) distribution criteria have rewarded states and municipalities that sign tax administration agreements for *predial* collection. To date, around 500 municipalities have signed agreements with 14 state governments.

38. **A number of innovative practices to improve property tax collection have been identified in high-performing municipalities.** Moderate discounts for early tax payments and automatic adjustments in property values are two promising options for enhancing *predial* collections. However, weak links between state property registries and municipal cadasters, legal hurdles due to outdated *predial* laws, and political disincentives to enforce collection are challenges that still need to be addressed.

Policy Options

39. **While improving tax collection efficiency could help increase subnational own-source revenue generation in the short term, over the longer term substantially reducing the vertical fiscal gap will require expanding the subnational tax base.** Since motor vehicles can be registered in any state, the *tenencia* is subject to competition pressures which drive down tax rates. The relatively high rate imposed in some states has also led to tax evasion, which suggests that rate increases may not generate commensurate increases in *tenencia* collection. The other principal tax base for states, the *nómina*, is similarly limited in terms of its revenue-generating potential given the significant size of the informal sector in Mexico and the fact that the tax base is already used to fund social security programs. Moreover, payroll tax increases could further discourage employment growth in the formal sector.

40. **Enabling state and municipal governments to swap collection responsibilities for *tenencia* and *predial* taxes could improve collection efficiency.** The *tenencia* is an easier tax to administer than the *predial*, and the stronger administrative capacity of state governments makes them better suited to collect *predial* taxes. Promoting revenue sharing agreements between states and municipalities for both *predial* and *tenencia* taxes could also improve collection efficiency.

41. **Over the longer term improvements in tax collection efficiency will need to be combined with expanded tax bases to increase subnational own-source revenue generation, and previous attempts to introduce subnational indirect taxes should be revisited.** A 2002 proposal to allow states to levy a 2 percent tax on final sales failed when the federal government did not reduce its own rate enough to provide the states with the necessary fiscal space necessary to levy the tax. Instead, the VAT rate remained the same and states were allowed to impose an additional 2 percent final sales tax, though no state chose to do so. In 2012 a new proposal to implement a 5 percent state final sales tax also failed. However, boosting subnational tax revenues will require that subnational governments share major tax bases with the federal government. The international experience shows that of the major taxes levied at the state level in other federal countries, the best candidates for dual-collection are typically general sales taxes.

42. **Harmonizing and broadening the federal VAT tax base will be critical regardless of whether a final sales tax or subnational VAT is established.** At a basic level harmonization involves adopting the same tax base with uniform tax policies, so that taxpayers in two different states are taxed on essentially the same basis. Successful harmonization efforts are founded on negotiated arrangements between different levels of government. While harmonization could result in some loss of fiscal autonomy, reducing the number of state VAT rates would limit economic distortions and efficiency losses due to administrative and compliance costs. Unlike harmonization of the tax base administrative harmonization is open-ended and can range from aligning tax rules to information sharing and coordinated audits. Harmonization agreements can incentivize revenue collection, promote compliance and encourage taxpayer education.

43. **However, complete harmonization of tax bases and rates would undermine the purpose of decentralizing tax authority, which is to devolve greater responsibility for revenue and expenditure management at the subnational level.** Harmonizing tax bases is more critical than harmonizing rates, as it has greater potential to reduce administrative and compliance costs. Maintaining a meaningful degree of control over tax rates is critical to ensure subnational autonomy and accountability.

Table 3.5: Multi-Level Indirect Taxation in Selected Countries

Country	Federal VAT	State Sales Taxes	Type of State Tax	Trade Treatment
Argentina	Yes	Yes	Gross receipts tax	Origin
Australia	Yes	No	All VAT revenue goes to states	Destination
Brazil	Yes (limited)	Yes	VAT	Origin
Canada	Yes	Yes	Multiple fiscal autonomy arrangements	Destination
Germany, Austria	Yes	No	States share in VAT revenue	Destination
India	Yes (limited)	Yes	States moving from taxes at producer level to VAT	Origin
Switzerland, Belgium	Yes	No	None	Destination
United States	No	Yes	Most states levy sales taxes	Destination

Source: World Bank, 2009

44. **Finally, the option of allowing state governments to establish a surcharge on the federal income tax could be explored.** A recent World Bank report⁸ suggests that a federally administered

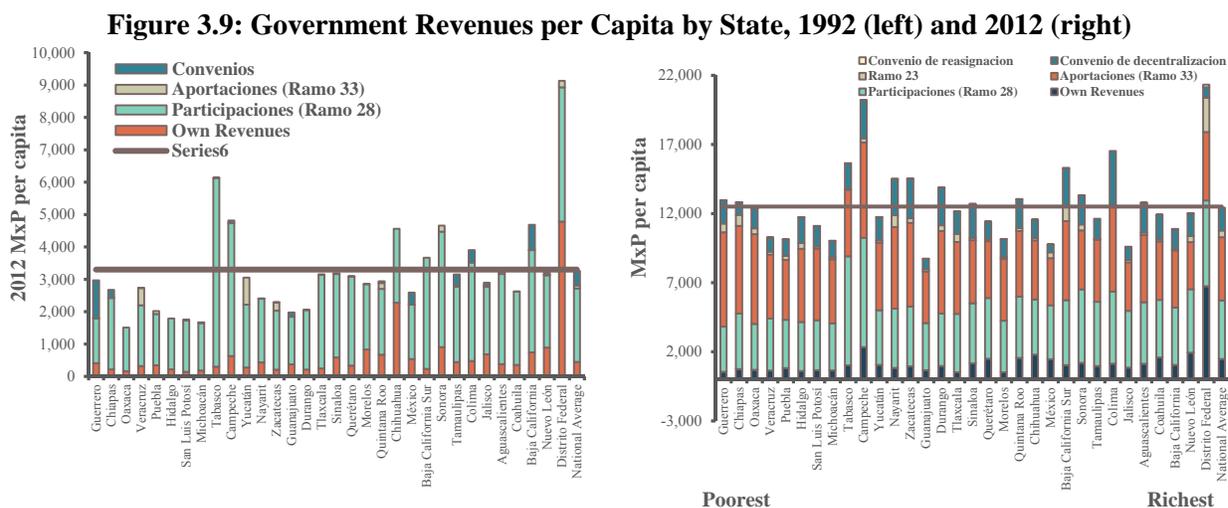
⁸ Mexico: Fiscal Challenges—Revenue. Mimeo, June 2015

surcharge of between 1.5 and 3.0 percent of taxable income could be a viable option. The study recommends that this surcharge replace state payroll taxes, which appear to be contributing to the growth of Mexico’s informal sector. A surcharge would also reduce compliance costs for taxpayers, as they would pay all income taxes to a single tax administration. Subnational governments in Canada, Switzerland and Spain levy a surcharge on the central government’s personal income tax revenues to finance their activities.

THE INTERGOVERNMENTAL TRANSFERS SYSTEM

45. **Transfers from the federal government to states and municipalities are at the heart of Mexico’s fiscal federalism framework.** Federal transfers to subnational governments serve three main policy objectives: (i) to close the gap between the large and growing spending obligations of subnational governments and their modest tax collection capacity, (ii) to alleviate horizontal imbalances in fiscal capacity associated with regional economic disparities, and (iii) to provide appropriate incentives for expenditure efficiency, fiscal discipline and tax collection among subnational governments.

46. **Intergovernmental transfers in Mexico amount to more than 10 percent of GDP, represent more than 50 percent of federal government revenues and finance around 90 percent of all spending by subnational governments.** *Participaciones* represent 3.5 percent of GDP, or about 25 percent of federal domestic tax revenue, and in recent years they have accounted for around 40 percent of state and municipal revenues. *Participaciones* offer two main advantages for recipient governments: (i) their use is completely discretionary and (ii) they are determined through an allocation formula and are therefore predictable. *Aportaciones* finance sector-specific spending by subnational governments. They encompass 8 funds under *Ramo 33*. On average they represent about 5 percent of GDP, almost 50 percent of state revenues and more than 60 percent of municipal revenues. The largest *aportaciones* fund state education, health and public security payrolls. Earmarked transfers for regional and local infrastructure projects are allocated under *Ramo 23*. Finally, decentralization agreements (*convenios*) are a type of matching grant used to finance programs of interest in specific sectors targeted by the federal government. They are negotiated on a case-by-case basis and executed by subnational governments.



Source: SHCP and World Bank staff calculations

47. **Following the decentralization of key social services in the early 1990s, intergovernmental transfers increased substantially, their distribution among subnational governments became more equal, and earmarking became more common.** Driven by the decentralization of spending responsibilities, real per capita transfers to subnational governments quadrupled between 1992 and 2012.

Changes to the distribution formula for *participaciones* in 2007 increased the weight of population size, resulting in a more equal distribution in per capita terms. As a result, the coefficient of variation in the per capita revenues of state governments declined from 0.46 to 0.21.⁹

48. **Earmarked transfers have grown as a share of total transfers, suggesting that although resources have been increasingly decentralized, the autonomy of state and municipal governments over the allocation of those resources has diminished.** The increase in *aportaciones* is clearly related to the decentralization of education, health and security spending. However, the rise in *Ramo 23* conditional transfers focused on infrastructure, coupled with the proliferation of decentralization agreements, has increased the influence of federal agencies over subnational spending. The growing share of earmarked transfers managed at the federal level suggests that the process observed in recent years more closely resembles administrative de-concentration than fiscal decentralization.

⁹ Resources transferred to the Federal District include direct federal spending for teachers. In this analysis these are classified as *aportaciones* in order to maintain comparability with the states.

Table 3.6. Federal Transfers Received by Subnational Governments, 2014

<i>Transfer</i>	<i>% of GDP</i>	<i>Funding</i>	<i>Type of Funding</i>	<i>Basis for Distribution</i>	<i>Formula-Based Distribution?</i>	<i>Share Destined for Municipality</i>
Revenue-sharing	4.3%					
Participaciones						
<i>Fondo General de Participaciones</i>	3.4%	20% of RFP	General revenue	Formula relating to tax collection, state GDP and population	Yes	At least 20%
<i>Fondo de Fomento Municipal</i>	0.07%	1% of RFP	General revenue	Improvement in tax collection (water and property tax) and population	Yes	100%
<i>Fondo de Compensación</i>		2/11 of the local gasoline tax collection	General revenue	Inverse of GDP per capita	Yes	At least 20%
<i>Impuesto Especial sobre Producción y Servicios</i>	0.08	8% Tobacco; 20% beer and alcohol	General revenue	Derivation	Yes	At least 20%
<i>Fondo de Fiscalización y Recaudación</i>	0.08	1.25% of RFP	General revenue	GDP and tax collection	Yes	At least 20%
<i>Municipios colindantes con la frontera o los litorales</i>	0.02%	0.136% of RFP	General revenue	Improvement in tax collection	Yes	100%
<i>Fondo de Extracción de Hidrocarburos</i>	0.0%	0.008% of the Mexican Fund of Petroleum	General revenue	Based on oil production	Yes	At least 20%
<i>3.17% de los Derechos de Hidrocarburos</i>	0.01%	3.18 % of the 0.0148 of hydrocarbon fees	General revenue	Based on oil exports	Yes	At least 20%
<i>9/11 de la recaudación de gasolinas y diesel</i>	0.08%	9/11 of sales of gasoline and diesel	General revenue	Based on sales of gasoline and diesel	Yes	At least 20%
<i>Fondo de Impuesto sobre la Renta</i>	0.01%	Income tax paid for state and municipal government employees	General revenue	Based on income tax collection from state and municipal government employees	Yes	At least 20%
Economic incentives						
<i>Fondo de Compensación, Impuesto Sobre Autos Nuevos</i>	0.05%		General revenue	Based on collection from the tax on new vehicle purchases	Yes	At least 20%
Other economic incentives	0.03		General revenue	Derivation	Yes	Derivation
Earmarked funding						
Aportaciones Ramo 33	4.1%					
FONE (basic education fund)	2.3%	Covers payroll for decentralized teachers	Teacher payroll	Decentralized teacher's payroll	No	0
FASSA (health services fund)	0.4%	Covers payroll for decentralized workers	Health worker payroll	Previous budget year's allocation	No	0
FISE (state infrastructure fund)	0.06%	0.3066% of RFP	Capital investment	Formula: Basic needs	Yes	0
FISM (municipal infrastructure fund)	0.4%	2.2228% of RFP	Capital investment	Formula: Basic needs	Yes	100%
FASP (public security fund)	0.06%	Negotiated during budget process	Current investment	Formula: Population and public security criteria	Yes	0
FAM (multiple use fund)	0.01%	0.814% of RFP	Current investment	—	No	0
FAETA (adult technical training fund)	0.04%	Covers payroll for decentralized teachers	Current investment	Previous budget year's allocation	No	0
FORTAMUN-DF (municipal strengthening fund)	0.4%	2.5623% of RFP	Current	Formula: population	Yes	100%
FAFEF (financial needs and pensions)	0.2%	1.4% of RFP		Inverse of GDP per capita	Yes	0
Ramo 23 (Regional development fund, metropolitan areas fund, natural disasters fund and municipal paving fund)	0.8%	Disc.	Mostly capital investment	Case-by-case agreement / Congressional decisions	No	0
Decentralization agreements	1.8%		Mostly current	Case-by-case agreement	Varies by agreement	0
<i>Seguro Popular</i> (health)	0.5%	Transfers for insured person	Health operating costs	Number of insured person	Yes	-

Source: World Bank staff based on *Ley de Coordinación Fiscal* (SHCP)

49. **Intergovernmental transfers increased from 48 percent of federal revenues in 2002 to 55 percent in 2014, reducing budget flexibility at the federal level.** *Participaciones* are non-programmable spending over which the federal government has no control. While *aportaciones* are programmable spending, and therefore more flexible in principle, a large share of earmarked transfers are effectively mandatory. In addition, transfers under *Ramo 23* are largely inflexible, as their level and allocation are highly inertial and the executive power of the federal government has little power to control their use. The expansion of *Seguro Popular* also increased federal transfers in the health sector and given the strong inertial component based on the number of program beneficiaries in each state, it increased budget rigidity. In practice, some components of *Ramo 23* and the decentralization agreements are the only intergovernmental transfer category over which the federal government exercises clear discretion. Medium-term tax and oil revenue projections suggest that federal expenditures will only become more rigid, as rising tax revenues will be shared with subnational governments, while falling oil revenues will be overwhelmingly absorbed by the federal government.

Table 3.7. Federal Transfers as a Percentage of Total Federal Revenues, 2002-2014

	2002	2006	2010	2014
TOTAL	47.8	44.0	50.8	54.7
Revenue-sharing (<i>Participaciones</i>)	21.7	21.1	21.0	20.3
<i>Fondo General de Participaciones</i>	18.3	17.6	16.0	16.2
<i>Fondo de Fomento Municipal</i>	0.9	0.8	0.8	0.8
<i>Tenencia o Uso de Vehículos</i>	1.3	1.2	0.9	0.0
Others	1.3	1.5	3.3	3.3
Earmarked	26.1	22.8	29.8	34.4
<i>Ramo 33 (Aportaciones)</i>	22.9	20.0	20.9	19.5
FAEB/FONE	14.3	12.5	12.0	10.6
FASSA	2.8	2.6	2.6	2.6
FAIS	2.2	1.8	2.0	2.0
FORTAMUN-DF	2.3	1.9	2.0	2.0
Others	1.3	1.2	2.3	2.2
<i>Ramo 23</i>	0.0	0.0	2.4	3.8
Decentralization Agreements (<i>convenios</i>)	3.2	2.8	6.5	8.6
<i>Seguro Popular</i> (social protection in health)				2.5

Source: World Bank staff estimates based on SHCP and INEGI

Participaciones

50. **At 3.8 percent of GDP, *participaciones* are the largest revenue-sharing mechanism in Mexico's fiscal federalism framework.** *Participaciones* are fixed percentages of a pool of federal revenues (*recaudación federal participable*, RFP) that are channeled to states and municipalities through twelve funds. The most important of the twelve *participaciones* funds is the General Participation Fund (*Fondo General de Participaciones*, FGP), which represents about 80 percent of total *participaciones*. The FGP distributes 20 percent of federal revenues to the states according to an allocation formula.¹⁰ States, in turn, are required to transfer at least 20 percent of FGP resources to municipalities, with each state establishing its own allocation criteria.

¹⁰ The RFP includes the income tax, VAT, and other federal taxes, as well as oil revenues. It does not include revenue from public enterprises, federal government financing or other nontax revenues.

51. Due to modifications to their distributional formula in the 1990s and in 2007, *Participaciones* no longer just compensate states for the centralization of tax powers (devolutionary or reimbursement component), but serve as a mechanism for redistributing federal tax revenues from more- to less-developed states (equalization or compensatory component). *Participaciones* were introduced in 1978, when the central government established a broad-based national VAT and eliminated many indirect state and local taxes. The initial purpose of the fund was to reimburse subnational governments for the loss of own-source revenue, and the original formula distributed resources based on the amount of federal revenues collected in each state. In addition, a compensatory fund transferred revenues to states that received less than the mean per capita *participaciones*. Revisions to this formula in the early 1990s shifted the focus away from reimbursement and toward the relative population size and tax-collection efforts of the states.¹¹ While this reform introduced an equalization or compensatory component to the FGP, the new formula did not have a strong equity impact,¹² as its distribution criteria did not reflect local economic conditions or local tax-collection capacity.¹³ In 2007 the formula was revised again, and resource allocation is now based on population, the growth rate of gross state product, the FGP funds received by the state in 2007¹⁴ and the growth rate of the state's own-source revenues (Box 3.1).

Box 3.1: The 2007 FGP Formula

Since 2008 Mexico's FGP has been distributed as follows: all states receive no less than the nominal *participaciones* they received in 2007. Any additional resources are distributed according to the following:

- 60 percent according to a coefficient that rewards increases in gross state product
- 30 percent according to a coefficient that rewards increases in state own-source revenue (OR)
- 10 percent according to a coefficient that rewards total own-source revenue,

Formally, the new distribution formula is:

$$P_{i,t} = P_{i,07} + \Delta FGP_{07,t} (0.6C1_{i,t} + 0.3C2_{i,t} + 0.1C3_{i,t})$$

with:

$$C1_{i,t} = \frac{\frac{GDP_{i,t-1}}{GDP_{i,t-2}} * n_i}{\sum_i \frac{GDP_{i,t-1}}{GDP_{i,t-2}} * n_i} \quad C2_{i,t} = \frac{\Delta OR_{i,t} * n_i}{\sum_i \Delta OR_{i,t} * n_i} \quad C3_{i,t} = \frac{OR_{i,t} * n_i}{\sum_i OR_{i,t} * n_i}$$

and

$$\Delta OR_{i,t} = \frac{1}{3} \sum_{j=1}^3 \frac{OR_{i,t-j}}{OR_{i,t-j-1}}$$

where GDP_i is state i 's GDP, ΔOR_i is the average growth rate of local revenue in the last three years, $P_{i,07}$ is the FGP amount received in 2007, and n_i is the state's population.

Source: Revilla, 2010.

52. In effect, the new *participaciones* formula distributes any increase in the FGP from its 2007 level at close to an equal per capita basis, which redistributes revenues but falls short of full fiscal

¹¹ Herrera, 2012.

¹² Webb and Gonzalez, 2006.

¹³ Revilla, 2010. Variable assignable taxes were used as a proxy for economic activity because state GDPs were not available in 1991. However, collection of these taxes was poorly correlated with economic activity.

¹⁴ The "hold-harmless" clause ensures that no subnational entity receives less in transfers than it received in 2007.

equalization (Box 3.2). Although the formula is designed to reward increases in state economic activity through the proxy of federal tax collections in each state, as well as states' own tax-collection efforts, the effectiveness of these incentives is diminished by the major role of the state's population in determining the final transfer amount. Thus, any increase in economic activity or tax effort results in a relatively small and temporary boost in *participaciones*, while the bulk of the allocation continues to be based on population share.¹⁵ A similar pattern could be achieved by disbursing the post-2007 increase in the FGP on a simple per capita basis. Distributing *participaciones* on a per capita basis would be consistent with a "model" transfer system, as it would reduce the vertical fiscal imbalance without implying the equalization of fiscal capacity among states.

Box 3.2: A Note on the *Participaciones* Formula

The FGP allocation formula can be re-written as follows:

$$P_{i,t} = P_{i,07} + \Delta FGP_{07,t} \left[0.6 \frac{(1 + g_{i,t})}{(1 + g_{ave,t})} s_{i,t} + 0.3 \frac{(1 + r_{i,t})}{(1 + r_{ave,t})} s_{i,t} + 0.1 \frac{(\rho_{i,t} s_{i,t})}{(\sum_j^{32} \rho_{j,t} s_{j,t})} \right]$$

where:

$g_{i,t}$ is the growth rate of state i 's GDP from year $t-2$ to $t-1$;

$g_{ave,t}$ is the average GDP growth rate for all states from year $t-2$ to $t-1$;

$s_{i,t}$ is state i 's population share in year t , $s_{i,t} = n_{i,t}/n_t$, where n_t is total population in year t ;

$r_{i,t}$ is the average growth rate of state i 's own-source revenues over the previous three years;

$r_{ave,t}$ is the average growth rate of total own-source revenues for all states over the previous three years;

$\rho_{i,t}$ is state i 's share of total state revenues in year $t-1$;

If a state's share of the total population and revenues is low, $\rho_{i,t} s_{i,t} \approx 0$, its GDP is growing at the national growth rate, $g_{i,t} = g_{ave,t}$, and its own-source revenues are growing at the average rate for all states, $r_{i,t} = r_{ave,t}$, then the FGP allocation formula for state i in year t is:

$$\frac{P_{i,t}}{n_i} = \frac{P_{i,07}}{n_i} + 0.9 \frac{\Delta FGP_{07,t}}{n}$$

In other words, a small state with an economy growing at the average national rate and with own-source revenues growing at the average rate for all states will receive a grant that is equal to 0.9 times the per capita increase in the FGP since 2007 in addition to its 2007 per capita FGP. This explains why the FGP is gradually approximating an equal per capita grant for most states, since over time the 2007 component is becoming smaller relative to the $\Delta FGP_{07,t}$ component.

Furthermore, deviations from the average growth rate have little effect on a state's per capita transfer. For example, supposing the national GDP growth rate is 4 percent and a state's growth rate increases from 4 to 8 percent, and assuming that the state's growth rate has a minimal impact on the national average growth rate (i.e. the state represents a small share of total GDP), then the increase in its per capita transfer would be equal to $0.0230 \frac{\Delta FGP_{07,t}}{n}$. Similarly, an increase in a state's revenue growth rate would result in only a small and temporary increase in its *participaciones* transfers. For these reasons and equal per capita transfer could replace the $\Delta FGP_{07,t}$ component of the formula with a minimal impact on the final distribution.

Source: World Bank staff

53. **In addition to the FGP, several other small transfers financed through the RFP pool are designed to reward fiscal management performance and own-source tax collection.** The Revenue Collection and Auditing Fund (*Fondo de Fiscalización y Recaudación*, FOFIR) represents 1.25 percent of

¹⁵ Herrera, 2012.

RFP; it allocates resources according to each state's share of national GDP and the value of illegal imports confiscated by the tax revenue administration in each state, and own revenue collection performance in each state. The *Municipal FFM*, mentioned above, represents 1 percent of the RFP and is allocated to municipalities on the basis of improvements in administering property taxes and water tariffs. A new distribution formula for the FFM was introduced in 2013, which rewards states and municipalities that sign tax administration agreements for collecting the *predial*. The transfer to municipalities that are located in international frontier or seaboard areas (*Municipios Colindantes con la Frontera o los Litorales*) represents 0.136 percent of the RFP and allocates funds according to the value of international trade (exports and imports) processed in the area in the previous year, in addition to the collection performance in the *predial* tax and water user fees.

54. **In spite of the recent inclusion of tax collection performance criteria in their distribution formula¹⁶, these transfers do not provide, however, substantial incentives to enhance tax-collection efficiency among recipient states or municipalities.** Instead, they reflect the degree of administrative cooperation between federal and state agencies in the collection of federal revenues. With the exception of the FFM, which rewards the collection of property taxes and water tariffs, the distribution criteria for these transfers are based on federal revenue collection in each state or municipality. Consequently, they reward collaboration between federal, state and municipal revenue agencies rather than the effectiveness of subnational agencies in collecting own-source revenues. Moreover, these transfers are weighted by relative population size, which dilutes their underlying performance indicators. Finally, the revenues they transfer are very small and distributed across a large number of eligible recipients.

Aportaciones

55. **At more than 5.5 percent of GDP, the *Ramo 33* budget line includes the most important earmarked federal transfers to subnational governments.** *Ramo 33* was established in 1998 to regulate and improve the transparency and predictability of federal transfers following the decentralization of basic education, health and social infrastructure services. In 2007 other federal transfers were established to support technical and institutional capacity building activities in the finance secretariats of municipal governments and territorial areas of the Federal District (FORTAMUN-DF) and the subnational security sector were included in *Ramo 33*.

56. **Transfers under *Ramo 33* primarily finance the costs associated with deconcentrating service delivery.** Differently from traditional conditional grants that are typically used to encourage states and municipalities to allocate more resources to certain public goods or services than they otherwise would, the earmarked transfers under *Ramo 33* were created to finance the decentralization of staff and facilities from the federal government to subnational entities rather than to incentivize spending or promote specific national goals.

57. **Moreover, due to their original function of financing the deconcentrating of public services, the allocation criteria for transfers under *Ramo 33* are based on supply-side considerations rather than demand.** When the allocation of transfers is based on inputs and not results, transparency, accountability and efficiency tend to be weak. Moreover, because the distribution criteria for these transfers were defined when services were decentralized, they have a strong inertial component. As a result, cost considerations are often absent from the distribution criteria for earmarked transfers.

¹⁶ Since 2015, an additional 30 percent of the difference between the current FFM transfer and the one transferred in 2013 is allocated to states that have *predial* tax collection agreements with their municipalities. In addition, the personal income tax collected on state and municipal public servants is returned to the states and local governments.

58. **Nevertheless, earmarked transfers have become increasingly important due to both the overall expansion of public services and the rising share of services provided by subnational governments.** The robust increase in basic education and health spending and the decentralization of public security boosted the budget for *aportaciones*. *Ramo 33* currently encompasses 8 federal earmarked transfers, the largest of which are the transfers for basic education, health and social infrastructure. By the mid-2000s, total transfers under *Ramo 33* exceeded the size of the FGP.

Fondo de Aportaciones para la Nómina Educativa y Gasto Operativo (FONE)

59. **At 1.7 percent of GDP the Fund for the Education Payroll and Operating Expenses (*Fondo de Aportaciones para la Nómina Educativa y Gasto Operativo*, FONE) is the most important earmarked federal transfer to state governments.** Previously known as the Contribution Fund for Basic Education (*Fondo de Aportaciones para la Educación Básica*, FAEB), this transfer was established following the decentralization of basic education services in the 1990s. Other earmarked federal transfers for education spending by state governments include the Multiple Contribution Fund (*Fondo de Aportaciones Múltiples*, FAM), which finances education infrastructure, and the Fund for Adult and Technical Education (*Fondo de Aportaciones para la Educación Tecnológica y de Adultos*, FAETA), which supports adult education and technical and vocational training.

60. **The decentralization of basic education services and the establishment of the FAEB resulted in a dual basic education system.** While responsibility for most education services was transferred to the states, the reluctance of the federal teachers' union to be involved in the decentralization process resulted in a dual education system consisting of federal schools and teachers financed by FAEB and managed by state governments and the basic state education networks that existed before decentralization. While the National Agreement of 1992 effectively unified teacher salaries, this did not include social benefits and the dual education system remained largely intact.¹⁷ Even when recruited by states for federal schools, new teachers are considered federal employees, and in some cases federal and state teachers are employed in the same school. This has forced states to implement dual payroll systems.

61. **The dual education system created an unclear division of responsibilities between states and the federal government, which reduced transparency, distorted incentives and weakened accountability.** While state governments were able to hire and fire teachers, they did not have full control over wages and benefits. This diluted accountability for payroll decisions, with states arguing that the federal government was responsible for increases in the wage bill. States also had a limited ability to adjust curricula and programs to reflect regional needs. Moreover, other functions, such as the construction of schools through *Ramo 33* funds, were never fully transferred to the states,¹⁸ which weakened accountability for service quality.

62. **The dual system also created distortions in the payroll for teachers.** As many teachers' wages continued to be set at the federal level, wage negotiations took place in two phases. The federal government and teachers' union negotiated national wage-adjustment agreements, and since most states operated a state-level basic education system, state governments negotiated separate agreements with state teachers. The results of state-level negotiations were incorporated into federal discussions, and the national agreement served as a floor for salary increases by state governments. Since state-level wage increases were applied to federal teachers, states requested additional transfers to finance the overall growth of the education wage bill. This two-stage negotiation process enabled opportunistic behavior, as higher wage rates obtained through state-level negotiations had to be financed by the federal government and thus were not fully internalized by states. Moreover, as a large share of the education wage bill was financed by the federal

¹⁷ Giugale and Webb, 2000.

¹⁸ Ibid.

government, state governments did not have an incentive to improve the transparency of the federal teacher payroll, which resulted in a proliferation of double-dippers and ghost workers, as well as the presence of a significant number of registered teachers working for the union rather than in schools.

63. **In 2007 the FAEB distribution formula was modified to incorporate the number of students enrolled in basic education and other performance indicators.** Before 2007 the allocation of FAEB funds was based on the number of federal teachers and federal schools in each state (i.e. the supply of federal education services). This resulted in an inequitable distribution of transfers, since FAEB was closely correlated with the size of the federal network in each state rather than the number of students. To address disparities in per-student expenditures and reorient FAEB transfers to reflect local demand, the distributional criteria were modified, and the number of enrolled students became the primary distribution criterion. In addition, a compensatory component was added to the formula to provide additional resources to states with a per-student transfer rate below the national average. Finally, a composite education quality index was established to link transfers to performance indicators.

64. **Despite improvements in the FAEB distribution formula, distortions in the teachers' payroll have continued to intensify spending pressures in the education sector.** The 2007 reform did not eliminate the dual education system. The lack of transparency and control over the teachers' payroll by state governments remained, and the new distribution formula did little to improve state education financing. The formula was intended to ensure equal transfers per student, and covering the teachers' payroll was not its primary objective. As a result, the two-stage negotiations produced unfunded payroll increases that exceeded the increase in per-student transfers. In addition, states had little incentive to correct inaccurate reports that overestimated the number of students per schools, as lower reported enrollment numbers would reduce their FAEB transfers. Finally, several states claimed that the new FAEB formula did not reflect regional differences in the cost of service provision.

65. **By the end of 2014 the government decided to recentralize the teachers' payroll and to replace FAEB with FONE, which includes operating costs for federal schools managed by state governments.** Given that there will now be only one round of wage negotiations at the federal level, the federal government may be able to more effectively control the payroll. As an initial step, in February 2014, the federal government issued a decree defining the procedures for the registry of federal and state governments' positions in the education sector and the rules for the transfer of teachers between the federal and the state spheres. State governments will have a set of guidelines to define compensation rates for state teachers, and salary increases will be financed through their own revenue. While administrative controls are expected to be strengthened, opportunities remain to improve the transparency of payroll management and eliminate perverse incentives. However, the recentralization of the payroll will also limit the advantages associated with decentralized service delivery. Moreover, the demand-side allocation criteria will be replaced by supply-side criteria (i.e. the stock of federal teachers and schools), reducing the equalizing effect of the 2007 reforms. Providing adequate and equitable funding, enhancing monitoring and incentivizing results could advance the government's policy objectives more effectively than the recentralization of the teachers' payroll via FONE.

Box 3.3: The Brazilian Basic Education Fund (FUNDEB)

Brazil's Fund for Primary School Maintenance and Development and Teacher Training (*Fundo de Manutenção e Desenvolvimento do Ensino Básico e Valorização do Magistério*, FUNDEB) is a multi-governmental matching transfer that finances basic education services provided by state and municipal governments. Municipalities administer primary education (levels 1-8), while states are responsible for secondary education (levels 9-12). Both states and municipalities are responsible for the management of human resources, including teachers' payroll and school construction and operation, while the federal government provides regulatory oversight for basic education.

All three levels of government contribute to FUNDEB. The federal government defines regional minimum levels of expenditures per student, which can vary according to region, grade, and location (urban/rural). State governments and municipalities contribute 15 percent of their current revenues to a common pool in each state, which is then distributed according to the number of students in the state and municipalities. If the resources in a state's pool are not sufficient to cover the minimum expenditure needs per student the federal government makes up the difference. In this sense, the transfer from the federal government can be considered a regional equalization transfer. The distribution formula for FUNDEB also incentivizes good performance through the Index of Development of Basic Education, which is included as an indicator of the quality of education, combining information on students' performance from national assessments.

FUNDEB has promoted regional equalization in per capita expenditures and has been successful in improving the coverage and quality of education services. However, as the minimum level of expenditures per student determined by the federal government is low, regional disparities in expenditures per capita persist, with the more developed south and southeastern regions (which have greater tax revenue) seeing higher education expenditures per student.

Source: World Bank staff

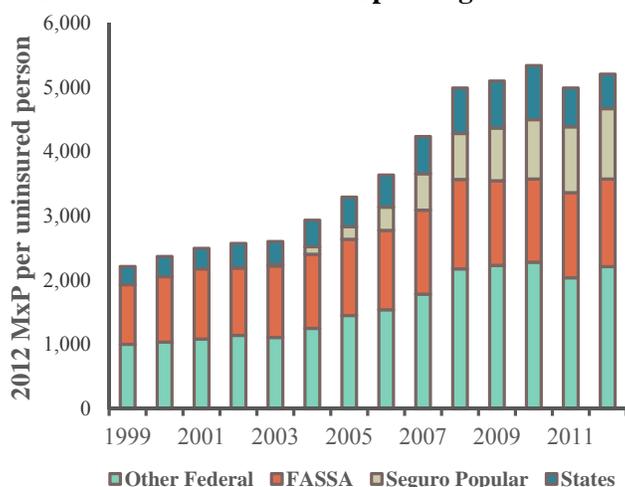
Fondo de Aportaciones para los Servicios de Salud (FASSA)

66. **The Fund for Health Services (*Fondo de Aportaciones para los Servicios de Salud, FASSA*), the second largest earmarked transfer, represents about 0.4 percent of GDP.** Similar to FAEB, FASSA was established to finance the decentralization of federal health workers and facilities in the second half of the 1990s. FASSA's equalization effect has also been weak, as the formula is based on supply- rather than demand-side criteria.

67. **FASSA transfers were originally based on the existing number of decentralized federal health workers and the operating costs of federal health facilities in each state.** While FASSA's distribution formula incorporated some per-capita equalization criteria, distributions were largely driven by the supply-side conditions that prevailed at the time when health services were decentralized. Given that more developed regions tended to have larger numbers of federal health workers, as well as more qualified staff and better facilities, FASSA transfers may have exacerbated regional disparities in health services. A lack of transparent and effective control over the health worker payroll and the operating costs of healthcare facilities created similar issues to those observed in FAEB/FONE.

68. **In recent years, other public health programs have profoundly influenced FASSA transfers.** Mexico's universal basic health program, *Seguro Popular*, as well as IMSS-*Progresa* and other programs and services funded through state own-source revenues, provide health services to the uninsured. As a result, public health spending on the uninsured has increased at an annual average rate of 7 percent in real terms, rising from MXN 2,212 per uninsured patient in 1999 to MXN 5,204 in 2012 (Figure 3.10).

Figure 3.10. Total State and Federal Health Spending on the Uninsured, 1999-2012



Source: SHCP

Note. Other Federal Expenditures include other *Ramo* 12, IMSS-Oportunidades, SEDENA, and SEMAR

69. **The establishment of *Seguro Popular* in the early 2000s and its rapid expansion in recent years is gradually correcting the unequal and inertial regional distribution of FASSA transfers.** *Seguro Popular* resources are allocated according to the number of beneficiaries in each state. While FASSA’s contribution to total health spending on the uninsured declined from 41.8 percent in 1999 to 26.2 percent in 2012, *Seguro Popular*’s contribution increased from 0.3 percent in 2002 to about 21 percent in 2012. FASSA finances an increasingly large share of *Seguro Popular*, and the expansion of *Seguro Popular* is expected to increase the amount of FASSA transfers per uninsured beneficiary. This is at odds with the initial criteria for FASSA allocations, which were based on the number of federal health staff and facilities in each state. The financing of *Seguro Popular* through FASSA is thus correcting the supply driven distribution of FASSA transfers, and over time FASSA allocations are expected to become increasingly demand-driven.

Fondo de Aportaciones para la Infraestructura Social (FAIS)

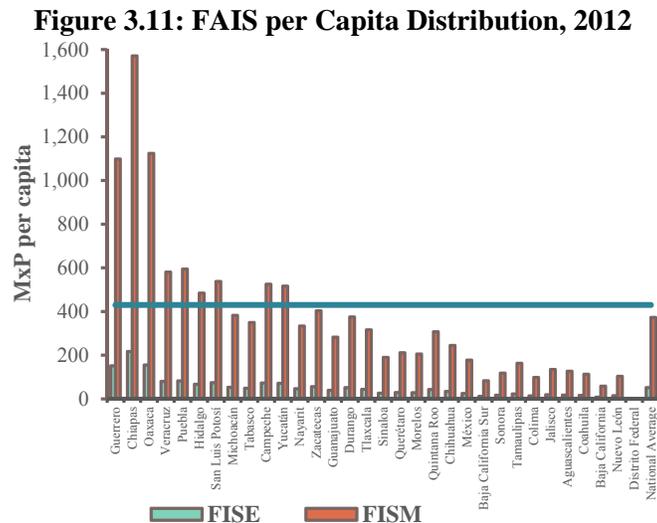
70. **The amount of resources distributed through the Transfer Fund for Social Infrastructure (*Fondo de Aportaciones para la Infraestructura Social, FAIS*) has increased at a rate of 4.5 percent per year in real terms.** Social infrastructure spending rose from MXN 223 per capita in 1998 to MXN 4,433 per capita in 2014, and FAIS transfers increased from 0.2 percent of GDP in 1998 to 0.3 percent in 2014. Under the Fiscal Coordination Law, FAIS transfers should represent 2.5 percent of the projected federal revenue pool (RFP) defined in the Revenue Act.¹⁹ FAIS transfers are disbursed through two funds: (i) the Fund for State Social Infrastructure Transfers (*Fondo de Aportaciones para la Infraestructura Estatal, FISE*), and (ii) the Fund for Municipal Social Infrastructure Transfers (*Fondo de Aportaciones para la Infraestructura Social Municipal, FISM*). FISM accounts for about 88 percent of FAIS transfers. In 2014 the federal government published a catalog of projects that can be financed through FAIS, and the rollout of a new georeferenced system in 2016 should enable better identification of FAIS-funded projects implemented by municipalities.

71. **FAIS resources are transferred to states and municipalities on the basis of poverty indicators.** The FAIS distribution formula favors less-developed states and municipalities; however, it does not provide adequate incentives to invest in infrastructure quality. Moreover, FISM funds are based on both state and

¹⁹ FAIS has constituted less than 2.5 percent of *participaciones* in some years.

municipal development indicators, and less-developed municipalities in relatively wealthy states may receive fewer resources than a similar municipality in a less developed state. Thus the FISM should be distributed separately from FISE, and it should focus solely on municipal poverty indicators.

72. **FISM uses a very loose definition of social infrastructure.** While some municipalities have used FISM funds to finance critical infrastructure projects, others have invested in low-quality infrastructure. The Fiscal Discipline Law for Federative Entities and Municipalities (*Ley de Disciplina Financiera de las Entidades Federativas y Municipios*, LDFEFM) more clearly defines productive investment and should enhance the overall effectiveness of FAIS resources.



Source: SHCP

Note: States are arranged according to the CONAPO index of marginality; those with the highest poverty rates are on the left and those with the lowest are on the right.

Ramo 23 and Decentralization Agreements

73. **Ramo 23 is a more flexible budget line consisting of voluntary transfers, and the size and beneficiaries of these transfers are determined by the federal government and approved by the Congress.** Resources from *Ramo 23* are distributed to subnational governments through specific funds, including regional integration projects, the metropolitan fund, the culture fund, and a border-areas fund, among others. *Ramo 23* transfers primarily consist of grants provided through agreements between the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*, SHCP) and state and municipal governments.

74. **In 2014, Ramo 23 represented about 0.8 percent of GDP.** Over the past six years *Ramo 23* has grown at an annual average rate of about 11 percent in real per capital terms. A recent study by the Inter-American Development Bank revealed a negative relationship between state tax revenues and voluntary earmarked transfers, concluding that “the increase in this type of transfer and the opacity problems with the FAEB and the rapid increase in subnational borrowing have softened the states’ budget constraints and have led to lower efforts to mobilize own-source revenues.”²⁰

²⁰ IDB, 2015. p.271

Policy Options

75. **Intergovernmental transfers are designed to address vertical and horizontal imbalances and ensure the effective provision of public goods and services at the subnational level.** A model intergovernmental transfer system comprises three types of transfers: (i) an equal per capita lump-sum transfer designed to address vertical fiscal imbalances between the central government and state and local governments, (ii) a fiscal-equalization transfer designed to address horizontal imbalances between state governments, and (iii) matching or earmarked transfers that incentivize subnational governments to provide public services that generate positive externalities or contribute to national development priorities.

76. **Lump-sum transfers can compensate subnational governments for their limited revenue capacity relative to the central government.** Centralizing tax authority is typically efficient, since national taxes are often less costly to implement and less economically distortive than state and municipal taxes. Moreover, subnational governments often face mobile tax bases, which increases the cost of levying taxes, or narrow tax bases, which require high tax rates in order to generate substantial revenues. The optimal size of lump-sum transfers depends on how expenditure responsibilities and tax bases are allocated between different levels of government.

77. **Fiscal-equalization transfers to state governments address differences in state-level revenue capacity.** Mexico's significant regional economic disparities affect the ability of states to finance public expenditures through own-source revenues. Equalization transfers may be based on differences in state fiscal capacity, as in Canada, differences in public service delivery needs and costs, or both. For example, the Australian equalization system is based on both need and fiscal capacity. However, incorporating need and cost factors requires a substantial investment of time and resources to gather detailed data. Equalization transfers in Mexico should begin by focusing on differences in fiscal capacity, which are easier to estimate.

78. **Matching grants should be provided to subnational governments when their activities generate regional or nationwide benefits.** Benefit spillovers can arise from activities that directly affect non-residents, such as infrastructure projects that reduce traffic congestion or pollution, or through fiscal gains from productivity enhancing activities that increase potential federal or state government tax revenue. Matching-grant formulas should be based on the impact of these positive externalities and the ability of governments to raise own-source tax revenues. Grants could be awarded on a regional basis to promote coordinated improvements in regional infrastructure or through open competition. Meanwhile, earmarked transfers should support the provision of basic education and health services and other subnational government activities that promote the national goal of reducing economic inequality.

79. **While these three types of transfers are part of the Mexican system, they do not effectively address vertical and horizontal imbalances or provide appropriate incentives for efficient public service delivery.** To improve their effectiveness, the number of *participaciones* transfers should be reduced from 12 to 4. These should include: (i) an equal per capita transfer to reduce the vertical fiscal gap; (ii) a fiscal-equalization transfer to reduce horizontal imbalances in revenue capacity; (iii) a transfer to incentivize tax collection efficiency at the state level; and (iv) a transfer to oil-producing states to compensate for the negative externalities generated by extractive industries.

80. **The FGP should be distributed on a simple per capita basis.** The FGP allocation formula is unnecessarily complex, and its numerous criteria have only a marginal impact on their respective goals. Distributing *participaciones* on an equal per capita basis is consistent with a "model" transfer system designed to reduce the vertical fiscal imbalance between the federal and state governments.

81. **Participaciones should focus on equalization.** Mexican states have widely varying capacities for generating own-source revenues. As the payroll tax is the most important tax imposed by the Mexican

states, total wages and salaries per capita could be used as a measure of each state’s revenue capacity. Each state’s GDP per capita would also provide a sound measure, as it reflects the amount of economic activity available to be taxed. The following is a proposed equalization formula based on state GDP:

$$\frac{E_i}{n_i} = \tau_s [B_s - B_i]$$

where E_i is the total equalization transfer received by state i ; τ_s is the “standard” tax rate; B_s is the standard per capita tax base; and B_i is state i ’s per capita tax base.

82. **The calculations below use Mexico’s average GDP per capita in 2012 (MXN 129,594) as the standard tax base, and the ratio of total state own-source revenue to GDP (0.0114) is used as the standard revenue rate.** The states with above-average GDP per capita would contribute to the equalization fund and their equalization transfer would be zero. Based on these parameters 21 states representing 73.2 percent of the population would have received equalization transfers in 2012.

Table 3.8: Estimate of per Capita Equalization Transfers in 2012

State	MXN	State	MXN
Chiapas	1,222	Veracruz	426
Guerrero	1,094	Durango	337
Oaxaca	1,087	Yucatán	332
Tlaxcala	981	Sinaloa	313
Michoacán	852	San Luis Potosí	305
Puebla	766	Zacatecas	196
Nayarit	741	Chihuahua	157
México	666	Jalisco	91
Hidalgo	653	Colima	67
Morelos	548	Baja California	3
Guanajuato	458		

Source: World Bank staff estimates

83. **Tax-efficiency incentives should be introduced.** As in other federal systems, revenue-sharing transfers in Mexico can negatively affect the behavior of both the federal and state governments. For example, both theoretical and empirical analyses have demonstrated that intergovernmental transfers inhibit tax collection efforts by recipient governments. Consolidating small transfers, including FOFIR, FMF, the special funds for border and coastal areas and FAFEF, into a single fund that rewards the revenue-collection efficiency of states and municipalities would help eliminate perverse incentives.

84. **Finally, the authorities should review the distribution of oil revenues to state and local governments.** States and municipalities should be compensated for the negative externalities caused by extractive industries. However, Mexico’s distribution criteria appear to be excessively generous and may offset the equalization effects of other intergovernmental transfers.

Aportaciones

85. **FONE transfers should be distributed on a per-student basis, with adjustments reflecting the local costs of service delivery.** For this system to work efficiently, service provision must be fully decentralized, with clear responsibilities assigned to each level of government. A distribution formula including both a core component and supplementary funds might be effective in the Mexican context. The

core component would be distributed on an equal per student basis, while the supplementary funds would be distributed based on local costs and performance indicators.²¹ FAETA and FAM could be distributed in a similar way, though further research would be necessary to estimate all relevant cost factors. During the transition period to the new distribution system the government could allocate the same amount of resources in nominal terms in a given year, and the annual increase in the transfer could be distributed on an equal per-student basis.

86. **FASSA should be distributed based on the number of uninsured people in each state.** FASSA should continue to partially fund *Seguro Popular*, with each state covering the difference. During the transition the federal government could distribute the same amount of resources in nominal terms each year, and the annual increase in the transfer could be distributed on equal per-uninsured-person basis.²²

87. **All remaining *aportaciones* should be eliminated.** Their resources should be distributed through *participaciones* or as an equalization grant. In the particular case of the Earmarked Fund for Strengthening Municipalities (*Fondo de Aportaciones para el Fortalecimiento de los Municipios*, FORTAMUN), which is disbursed directly to municipalities, the distribution should be based on the *participaciones* formula.

Ramo 23 and Decentralization Agreements

88. **The authorities should streamline discretionary transfers to subnational entities.** The federal government should use *Ramo 23* and decentralization agreements to prioritize spending. This would give the government the budget flexibility necessary to target specific priorities on a temporary basis instead of creating a new permanent earmarked transfer. In addition, reducing the number of *Ramo 23* programs could promote efficiency and flexibility in the use of transferred resources.

BORROWING AND SUBNATIONAL FISCAL DISCIPLINE

89. **Subnational indebtedness in Mexico has increased substantially since 2008.** Slower growth rates in the wake of the global financial crisis combined with easier access to credit have pushed the subnational debt stock from 1.7 percent of GDP in 2008 to 3.1 percent in 2014. Tighter borrowing restrictions on highly indebted states recently adopted and the improvement in subnational fiscal balances resulted in a slight reduction of the subnational debt to GDP ratio to 2.9 percent in 2015. This section briefly describes the institutional framework regulating subnational indebtedness and the evolution of subnational finances in terms of revenues, spending, fiscal balances and indebtedness.

Mexico's Subnational Indebtedness Framework

90. **Mexico's subnational debt framework was substantially reformed in 2000, expanding state and municipal access to the domestic credit market.** The previous framework was based on the concept of the mandate (*mandato*), under which the federal government acted as a trustee in servicing subnational debts with *participaciones* used as collateral. In practice, the *mandato* was perceived by the markets as a federal guarantee on subnational debt. This perception created two problems: (i) it gave banks an incentive to lend to subnational governments without assessing their repayment capacity, since banks viewed these loans as risk-free; and (ii) subnational governments expected to be bailed out in the event of a debt crisis, as they did not believe that the federal government would in fact reduce transfers.

91. **The reform of the subnational debt framework was based on an explicit no-bailout commitment by the federal government and a new system for enabling lenders to assess subnational**

²¹ Paqueo et al, 2003. See equations below.

²² Gonzalez and Webb, 2005; World Bank, 2006.

risk. The authorities eliminated the *mandato* and created Master Trust Funds (MTFs) for subnational governments. They integrated subnational credit ratings into the capital risk-weighting of bank loans and they required that subnational loans be registered with SHCP and comply with financial transparency requirements.

92. **The establishment of the MTFs was critical to reduce risks and borrowing costs.** In March 2000 the federal government approved an MTF contract that established and regulated payment procedures for loans guaranteed by *participaciones*. Each subnational government would establish its own MTF based on its specific legal environment. Some subnational governments also harmonized their debt laws and fiscal codes in line with the new framework. This was the first step in the restructuring of subnational borrowing.

93. **States transfer part of the flow of *Participaciones* to the master trust through an irrevocable instruction to the federal treasury, while the municipalities transfer their tax participation flow through an irrevocable instruction to their corresponding state treasury.** An irrevocable transfer of present and future *participaciones* facilitates the legal and risk assessments of securitized debt, as it isolates the payment source from the issuer and ensures the debt service obligations. The legal analysis is crucial to ensure that a state government will not use the flows of *participaciones* that are pledged to service the debt to other expenses.

94. **The government also strengthened supply-side regulations.** In 2004 the National Banking and Securities Commission (*Comisión Nacional Bancaria y de Valores*, CNBV) revised the regulations for commercial and development bank lending to subnational entities. Loans to subnational governments with outstanding debts at or above a certain threshold had to be provisioned according to the credit rating assigned to the subnational government by at least one external rating agency. If the subnational government was rated by two or more agencies, the lowest rating was used. The new provisioning rule also took into consideration credit-enhancement mechanisms such as the use of *participaciones* as collateral. The CNBV risk level was also adjusted depending on the credit, financial and legal strength of the guarantee mechanisms, and higher risk levels were assigned if the subnational government's debt was rated by only one agency. In 2011 the provisioning regulations were changed; loans can now be provisioned based on expected losses, which depend on the government's payment history and present financial situation.

95. **However, banks are substantially exposed to public debt.** Eight of the 10 largest debtors in the domestic credit market are public institutions (6 state governments and 2 parastatals). Moreover, state governments represent a large share of loans on certain bank balance sheets, and 3 banks have loans to only one public entity that equal their base capital. It must be noted, however, that this concentration of loans is based on amounts and does not consider credit quality or the guarantees in place.

96. **Credit ratings further reinforced the subnational indebtedness framework by strengthening market discipline.** The government encouraged the use of credit ratings by penalizing the reserve requirements of nonrated borrowers. By 2010 all states and a growing number of municipalities had been assigned credit ratings by at least one recognized rating agency. As a result, subnational public finances are subject to greater oversight and scrutiny by private lenders.

97. **One of the main weakness of Mexico's subnational indebtedness framework has been the lack of reliable and uniform financial information.** Mexico adopted a General Governmental Accounting Law (*Ley General de Contabilidad Gubernamental*, LGCG) in 2007, but its implementation at the subnational level has been limited. The LGCG establishes general criteria for the public accounts and financial reporting by public entities. The law also established a National Council for Accounting Harmonization (*Consejo Nacional de Armonización Contable*) in charge of issuing norms and guidelines for public entities, including states and municipalities. However, a large number of state and the majority of municipal governments have not adopted the uniform accounting methodology set forth in the LGCG. In addition, the

lack of information on short-term debt and on debt service payments disaggregated by interest and amortization is a serious accounting weakness. The establishment of a Single Public registry (*Registro Público Único*) mandated in the Fiscal Responsibility Law for Subnational Governments is expected to address existing problems of consistency and harmonized system of debt registration.

98. **Reforms implemented since 2000 have strengthened and elaborated the legal and institutional framework for subnational debt, allowing state and municipal governments to access credit in a more structured environment with less risk and lower costs.** The current system, in which MTFs are used to channel debt-service payments from *participaciones*, has contributed to the development of credit market for subnational governments. Credit ratings and banking regulations appear to have successfully differentiated borrowing costs, the use of *participaciones* as collateral notwithstanding.

99. **However, there are signs that hard budget constraints are being relaxed.** The evolution of federal discretionary transfers under *Ramo 23* may be easing budget constraints, as despite they are allocated to investment projects, in many cases these transfers have been used to close state-level financial gaps. Moreover, the increasing participation of national development banks in subnational lending, and especially in recent debt-renegotiation agreements aimed at reducing restructuring costs, could be perceived as an indirect bailout by the federal government.

100. **Limited data availability and incomplete data harmonization pose important analytical constraints.** Despite the progress achieved through the LGCG, the inadequate financial information produced by subnational governments hinders decision-making by both creditors and SHCP.

States Public Finances, 2008-2014

101. **Between 2008 and 2014 state revenues grew at an average rate of 2.8 percent per year in real terms, with revenue growth accelerating rapidly from 2011 to 2014.** Although state own-source revenues have increased faster than federal transfers (5.5 percent compared to 2.3 percent), the public finances of state governments remain highly dependent on federal transfers. An average of 84 percent of state revenues in 2014 were transfers from the federal government, of which 33 percent were *participaciones*. Gross borrowing increased to 8.5 percent of total revenues, or 62 percent of own-source revenues, in 2011 before falling to 2.4 percent of total revenues, or 26 percent of own-source revenues, in 2014.

Table 3.9: States Revenues 2008-2014 (MXN billions)

	2008	2009	2010	2011	2012	2013	2014	Composition (2014)	% of GDP (2014)
Federal transfers	1,018.6	1,078.4	1,121.0	1,220.0	1,311.8	1,425.5	1,489.8	83.5%	9.1%
Non-earmarked transfers (participaciones)	420.9	386.2	435.3	480.9	496.1	539.1	586.6	32.9%	3.6%
Earmarked transfers (aportaciones and others) *	597.7	692.1	685.7	739.1	815.7	886.4	903.2	50.6%	5.5%
Own-source revenues	166.2	156.4	175.2	192.1	223.8	218.2	294.7	16.5%	1.8%
Taxes	49.1	49.9	58.3	70.6	89.4	98.6	115.0	6.4%	0.7%
Permits	36.6	35.9	42.2	47.4	52.6	54.1	61.0	3.4%	0.4%
Other**	80.6	70.6	74.7	74.2	81.7	65.5	118.7	6.6%	0.7%
Total Revenues	1,184.8	1,234.8	1,296.2	1,412.1	1,535.6	1,643.7	1,784.4	100%	10.9%
Gross Borrowing	12.6	43.0	88.2	119.4	74.6	100.1	75.7	n/a	n/a

Source: World Bank based on INEGI.

* Includes subsidies, agreements for decentralization and reallocation, revenues for social protection in health and others.

** Includes voluntary funds, service fees and seniority revenue.

102. **Between 2008 and 2014 expenditures grew at an annual rate of 3.6 percent, while a steady rise in current spending reduced budget flexibility.** Current expenditures have expanded their share in total expenditures, increasing budgetary rigidity and reducing the resources available for investment. Transfers, allowances, subsidies, personnel services and allocations to municipalities amounted to 88 percent of total expenditures in 2014. By contrast, investment averaged just 7.5 percent over 2008-2014, declining from an average of 9.7 percent in 2008-2010 to 6.1 percent in 2011-2014. As in other countries in the region investment appears to bear the brunt of fiscal adjustments, especially adjustments caused by revenue shortfalls.

Table 3.10: States Expenditures 2008-2013 (MXN billions)

	2008	2009	2010	2011	2012	2013	2014	Composition (2014)	% of GDP (2014)
Noninterest current expenditures	799.3	861.6	946.5	1,039.0	1,143.0	1,211.2	1,325.2	74.9%	7.1%
Personnel services	249.8	266.5	286.7	315.8	339.1	378.6	401.9	22.7%	2.5%
Goods and services*	47.2	50.5	55.5	60.6	74.6	83.3	93.3	5.3%	0.6%
Transfers, allowances and other support**	486.7	526.2	584.6	631.5	692.4	735.8	815.3	46.1%	5.0%
Other non-interest current expenditure†	15.6	18.3	19.7	31.2	37.0	13.5	14.7	0.8%	0.1%
Resources assigned to municipalities	205.6	205.4	216.4	247.7	253.3	285.7	306.5	17.3%	1.9%
Interest payments	14.8	13.1	15.7	19.9	23.8	26.7	33.9	1.9%	0.2%
Total Current Expenditures	1,019.6	1,080.1	1,178.6	1,306.6	1,420.2	1,523.6	1,665.7	94.1%	10.2%
Public investment	104.7	124.2	122.0	96.7	87.1	94.6	104.5	5.9%	0.6%
Total Expenditures	1,124.4	1,204.3	1,300.6	1,403.3	1,507.3	1,618.2	1,770.3	100%	10.9%

Source: World Bank based on INEGI.

* Includes materials, supplies and general services.

** Includes transfers, allowances, other support and financial investments and other provisions.

† Includes personal property, real and intangible, and other expenditures.

103. **Fiscal balances deteriorated from 2008 to 2011, but the strong recovery of revenues and the decline in investment spending resulted in positive fiscal balances in 2014.** The aggregate primary

balance for all states dropped from a surplus of MXN 28 billion to a deficit of MXN 32.5 billion in 2010 due primarily to the decline in *participaciones* during the 2008-09 financial crisis. Meanwhile, noninterest current expenditures increased by over 18 percent, while total spending rose by 15.6 percent and transfers to municipalities grew by less than 6 percent. By 2013 the aggregate primary balance had returned to a surplus of MXN 31.8 billion as revenues increased by 29.6 percent over 2011-2013. While total spending increased at a slower rate of 24.4 percent, changes in the composition of expenditures suggest increasing rigidity. Noninterest current expenditures grew by 28 percent, led by personnel services at 32 percent, while investment decreased by 22.5 percent. The overall balance mirrors the primary balance, as interest payments represent a small share of total expenditures and have increased in line with total spending. In 2014, primary and overall balances consolidated their improvement as observed since 2013

Table 3.11: States Primary and Overall Balances 2008-2014 (MXN billions)

	2008	2009	2010	2011	2012	2013	2014	% of Total Revenue	% of GDP*
Primary Balance	28.0	3.2	-32.5	-11.1	9.9	31.8	48.1	2.7	0.29%
Overall Balance	13.2	-10.0	-48.2	-31.0	-13.9	5.0	14.1	0.8	0.09%

Source: World Bank based on INEGI.

*Ratios for 2014.

104. **Although states' aggregate primary and overall balances amounted to a surplus of 2.7 percent and 0.8 percent of total revenues, respectively, there was considerable variation between states.** Chiapas and Oaxaca registered primary deficits of around 5 percent, while Quintana Roo, Guanajuato, Aguas Calientes, Hidalgo, Coahuila, Estado de Mexico and Distrito Federal recorded robust primary surpluses of over 5 percent of their revenues. Chiapas, Oaxaca and Morelos registered overall-balance deficits of more than 5 percent. Guanajuato, Quintana Roo, and Aguas Calientes recorded overall surpluses that exceed 5 percent of their total revenues.

Figure 3.12: States Primary Balances in % of Total Revenues, 2014

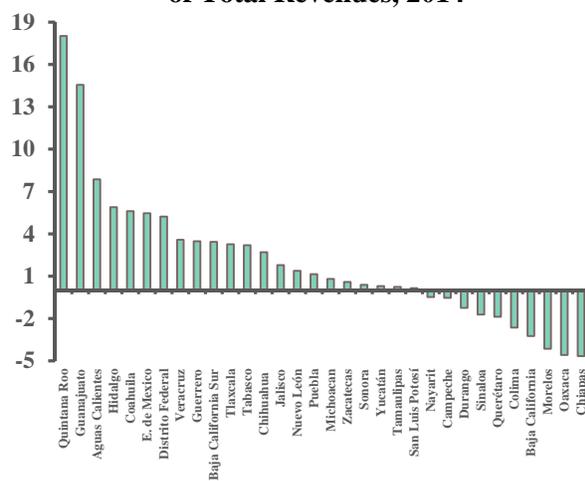
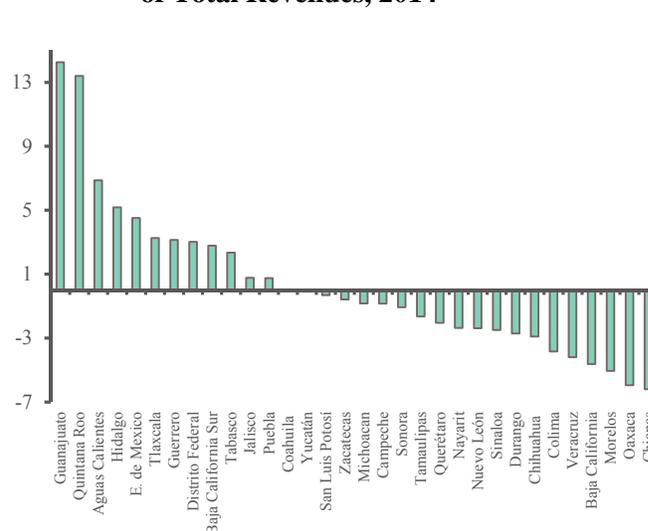


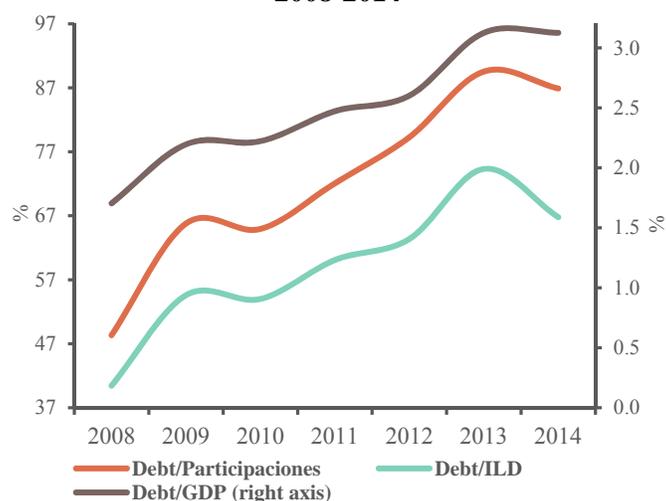
Figure 3.13: State Overall Balances in % of Total Revenues, 2014



105. **As a result of the fiscal deterioration observed between 2008 and 2011 and the need to sustain investment efforts, state debt increased from 1.7 percent of GDP in 2008 to 3.1 percent in 2014 and**

information for the third quarter of 2015 indicates that this ratio fell to 2.9 percent.²³ While their aggregate debt-to-GDP ratio is low by international standards, states have a limited ability to raise revenues, which is a key measure of their repayment capacity. State debt increased from 48 percent of *participaciones* in 2008 to 87 percent in 2014, and from 40 percent of non-earmarked revenues to 67 percent over the same period.²⁴ Fifty-nine percent of state debt is held by private commercial banks, 22 percent by national development banks, 16.5 percent by state bondholders, and 2.5 percent by other creditors.

Figure 3.14: State Debt as a Share of *Participaciones*, Non-Earmarked Revenues (ILD) and GDP, 2008-2014



Source: World Bank based on INEGI.

106. **While overall subnational indebtedness does not appear to be a source of systemic risks, some highly indebted states may need to implement fiscal adjustments to ensure their financial sustainability.** At the end of 2014, the debt-to-*participaciones* ratio for Chihuahua, Nuevo León, Coahuila and Quintana Roo exceeded 200 percent, while that of Veracruz, Nayarit and Sonora is around 100 percent. The acceleration of indebtedness among these state governments is cause for concern. Since 2008 the debt-to-*participaciones* ratio increased by about 260 percentage points in Coahuila, by 200 percentage points in Quintana Roo and Chihuahua, and by over 100 percentage points in Nuevo León, while Estado de México and Querétaro saw their ratios decline. Debt exceeded 150 percent of non-earmarked revenues in Coahuila, Nuevo León and Chihuahua, and exceeded 100 percent in Quintana Roo, Veracruz and Nayarit. The state debt-to-GDP ratio exceeds 5 percent in Coahuila, Chiapas, Chihuahua, Nayarit and Quintana Roo.

²³ This includes state liabilities reported in INEGI; it excludes short-term debt, pension liabilities or supplier credits.

²⁴ In the United States, Brazil and Argentina aggregate state debt amounts to about 6, 10 and 7 percent of GDP, respectively. When municipalities are included, these figures rise to about 18 and 12 percent for the United States and Brazil, respectively.

Figure 3.15: States Debt as a Share of *Participaciones*, 2014 (%)

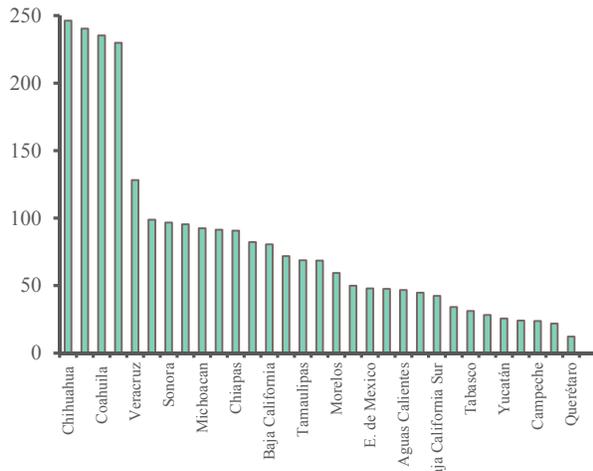
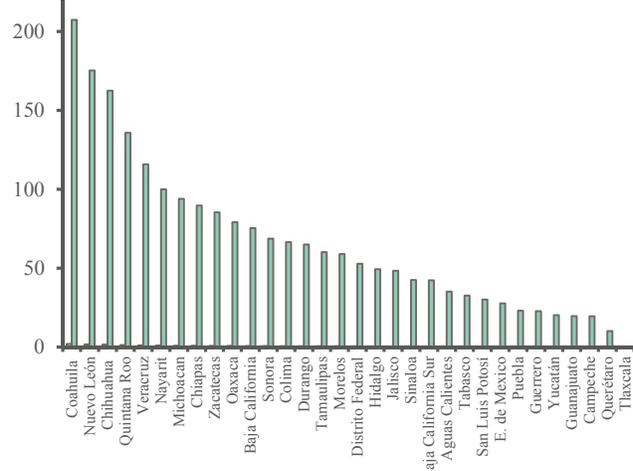


Figure 3.16: State Debt as a Share of Non-Earmarked Revenues, 2014 (%)



Source: World Bank based on INEGI.

107. **Improved borrowing conditions have attenuated liquidity and rollover risks.** Even states with high debt-to-*participaciones* ratios do not necessarily suffer from liquidity problems. The average maturity increased from 8.3 years in 2005 to 14 years in 2008 and has since remained at 14-15 years. Almost all states that have a debt-to-*participaciones* ratio of 100 percent or more also have an average maturity greater than the national average. The cost of subnational debt is also declining, and the average interest rate fell from 9.6 percent in 2008 to 6.1 percent in 2013.

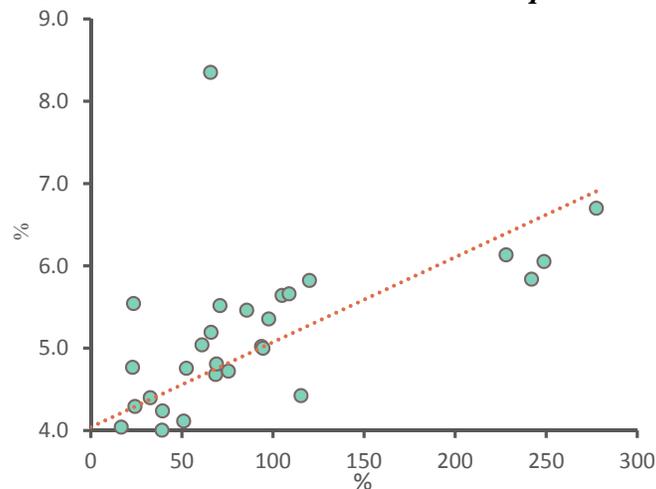
Table 3.12: SNG Debt/*Participaciones* Average Maturity and Cost, 2014

State	Debt-to- <i>Participaciones</i> Ratio	Average Maturity	Average Cost
Coahuila	248.8	16.2	6.1%
Chihuahua	242.0	18.5	5.8%
Quintana Roo	277.5	16.7	6.7%
Nuevo León	228.0	17.1	6.1%
Veracruz	120.1	18.0	5.8%
Nayarit	108.8	20.3	5.7%
Sonora	115.4	17.3	4.4%
Distrito Federal	105.0	18.1	5.6%
Chiapas	85.6	16.6	5.8%
Average	87.2	14.7	5.5%

Source: World Bank based on SHCP data.

108. **Borrowing costs reflect differences in the fiscal position of state governments.** Because state debt is backed by *participaciones* repayment risks are low. While one might expect that since the flow of *participaciones* depends on the evolution of federal rather than state revenues, commercial banks would not determine risk based of the solvency of state governments. However, financial markets have imposed higher interest rates on states with larger debt stocks, with the cutoff rate close to a debt-to-*participaciones* ratio of 100 percent. Moreover, there is a clear positive correlation between state debt-to-*participaciones* ratios and interest rates. This indicates that lenders differentiate risk despite the fact that the loans are guaranteed by *participaciones*.

Figure 3.17: State Interest Rates and Debt-to-*Participaciones* Ratios, 2014



Source: World Bank based on SHCP data.

109. **While the average maturity of debt has increased in most states, a growing reliance on short-term debt may ultimately create liquidity problems.** In 10 states, including Zacatecas, Michoacán, Morelos, Tabasco and Campeche, short-term debt is equal to over 50 percent of total debt.²⁵ Increased risk aversion during 2009-11 made it more expensive to access long-term credit while short-term rates plummeted, creating a strong incentive for states and municipalities to increase their short-term borrowing. In addition, under the legal framework short-term debt can be used to finance current expenditures, unlike medium- and long-term debt, creating an additional incentive for short-term borrowing.

Recent Initiatives to Enhance the Subnational Indebtedness Framework

110. **The authorities recently incorporated the possibility of debt restructuring—contingent on fiscal adjustment agreements—into the overall subnational indebtedness framework.** Since 2013 7 state governments have begun debt-restructuring operations with private banks based on fiscal adjustment plans agreed upon with SHCP. As the indebtedness framework does not provide a role for the federal government in these agreements, the participation of public banks serves as an indirect way for SHCP to reduce restructuring costs and indirectly impose targets to strengthen the fiscal position of the states.

111. **The federal government has decided to enhance the existing indebtedness framework by establishing hierarchical controls on subnational fiscal performance and indebtedness.** In May 2015 a constitutional amendment was adopted granting the federal government the authority to enact laws regulating the finances and indebtedness of subnational governments. In exchange for relinquishing this element of their sovereignty, subnational governments will be able to obtain federal guarantees on their debt-restructuring operations, though this will depend on the acceptance of their fiscal adjustment plans by SHCP. Therefore, federal guarantees for debt restructuring operations are expected to enhance the leverage of the federal government on the fiscal performance of subnational entities and reduce borrowing costs.

112. **The amendment granted Congress the authority to pass fiscal responsibility and fiscal coordination laws for states.** The legislature is now allowed to regulate the indebtedness of subnational governments, establish rules for using *participaciones* as collateral, and require subnational governments to regularly publish information on their debt status. Congress may determine appropriate sanctions for

²⁵ Hurtado and Zamarríeta, 2013.

civil servants who do not comply with these regulations, and it can establish a bicameral commission to examine state fiscal adjustment agreements.

113. **The amendment also enabled the federal Congress to define the conditions for federal guarantees on debt restructuring or refinancing operations.** The Court of Accounts (*Auditoría Superior de la Federación*) now has the authority to monitor subnational debt, oversee federal guarantees on subnational borrowing and audit states' compliance with the objectives of federal debt programs. Local legislatures are responsible for monitoring public financial and debt management, and the anticipated passage of new anticorruption legislation will reinforce the accountability of state officials and standardize regulations among subnational governments.

114. **Under the revised framework loans may be used for debt refinancing or restructuring, and states may borrow in order to guarantee loans to municipalities, but not to finance current expenditures.** Borrowing must be contracted under best market conditions. Local legislatures are required to approve debt ceilings by a two-thirds majority, as well as analyze the purpose of loans, assess the state's payment capacity and identify the source of future debt-service payments. States may contract loans to cover short-term needs, but these may not exceed the limits and conditions of the Public Debt Law. Short-term obligations must be repaid at least three months before the end of the current administration's term in office, and no new loans may be contracted during that three-month period.

115. **In accordance with its new powers to regulate subnational indebtedness, Congress began deliberating on a draft Fiscal Responsibility Law for Subnational Governments (*Ley de Disciplina Financiera de las Entidades Federativas y los Municipios*, LDFEFM) in August 2015 and the Chamber of Deputies approved this draft with small modifications in December 2015.** The draft LDFEFM establishes a fiscal rule for states and municipalities that links fiscal balances to indebtedness levels. The LDFEFM defines three balance levels for stable (low), observed (medium) and high debt levels designed to keep debt levels within a prudential interval. In addition, the draft law defines regulations for other fiscal indicators, including interest rates, debt-service payments and personnel spending, and it establishes escape clauses, budgetary norms, borrowing restrictions and limits on the use of *participaciones* as collateral. It also conditions the use of federal guarantees linked to fiscal adjustment agreements and creates an "alert system" for potentially unsustainable debt levels that will be tied to the fiscal rule and provide information on the debt profile of subnational governments. Procedural rules also include debt registration requirements and sanctions for civil servants who fail to comply with the law.

Box 3.4: Fiscal Responsibility Laws for Subnational Governments in Latin America

Brazil

The fiscal and debt policies of state and municipal governments in Brazil were a major source of macroeconomic instability in the 1990s. The decentralization process initiated by the Constitution of 1988 coupled with weak fiscal discipline drove up debt burdens among subnational governments through the latter half of the 1990s. Expansionary fiscal policies and a lack of effective indebtedness controls caused multiple subnational debt crises, resulting in three state bailouts and two municipal bailouts between 1989 and 1997.

Unlike the first two state refinancing operations the 1997/2001 bailout was conditional. Each of the 25 states that had their debt rescheduled were obliged to comply with a fiscal adjustment and structural reform program. These three-year rolling adjustment programs set annual targets or limits on gross indebtedness, primary balances, personnel spending, own-source tax collection, credit operations, guarantees and public investment. They also included structural reforms focusing on privatization and public sector modernization. Their overarching objective was to ensure that each state's gross debt did not exceed its net real revenues by 2028.

The controls on subnational fiscal policy were further strengthened by the approval of the Fiscal Responsibility Law in 2000. The law institutionalized fiscal discipline at all levels of government, incorporating hard budget

constraints into a single unifying framework. It explicitly prohibited debt-refinancing operations between different levels of government, thereby addressing the moral hazard problem caused by sequential bailouts. Complementary Senate resolutions also prohibited borrowing if: (i) net consolidated debt was more than double net current revenue; (ii) new credit operations exceeded 16 percent of net current revenue, or (iii) the debt service exceeded 11.5 percent of net current revenue. Borrowing was also prohibited if it violated the debt-reduction schedules set by the restructuring agreements, and subnational governments were forbidden to issue bonds through 2016. While states in which net debt is below net current revenue can issue bonds after 2011, these bonds are subject to federal government review.

Colombia

Colombia's initial fiscal responsibility laws applied only to subnational governments and were aimed at reinforcing the central government's control over subnational indebtedness. Law 357 (*Ley Semáforo*), enacted in 1997, introduced a credit rating system for subnational governments. It prohibited borrowing by highly indebted governments and required borrowing authorization from the Ministry of Finance for those with moderate levels of indebtedness. Subnational governments with poor credit ratings were required to implement fiscal stabilization plans. However, Law 357 was not effectively enforced, and many highly indebted SNGs were able to incur new debt, some by presenting false financial information. Subnational debt increased by 15 percent per year from 1998 to 2000. Law 357 was strengthened in 1999 by requesting that banks provision for the total debt of highly indebted subnational governments. In 2000 the government passed Law 617, which established a set of rules limiting subnational governments' operational expenditures through non-earmarked revenues and required fiscal adjustment plans in cases of non-compliance to be monitored by the Ministry of Finance.

In 2003 the government approved a fiscal responsibility law encompassing all levels of government, which included procedural and quantitative rules.²⁶ The 2003 law reinforced the liquidity and solvency indicators established in the previous legislation (ceilings on debt service, the debt stock and expenditures) and required that fiscal management at all levels of government be consistent with a medium-term macroeconomic framework. It continued to require fiscal adjustment plans for governments that did not comply with their debt ceilings.

The 2003 law also prohibits loans or guarantees from the central government to subnational governments if they are in violation of Laws 357 or 617 or if they are in arrears to the central government. Governments that cannot comply with the fiscal adjustment plan may be administratively reclassified and merged with other jurisdictions. To minimize the influence of electoral cycles on fiscal management, the law prohibits subnational governments from making expenditure commitments or increasing personnel spending in an electoral year. Subnational governments are also subject to additional deficit restrictions. Governments are now classified as either low-debt or high-debt (the intermediate category was eliminated), and all are required to obtain satisfactory credit ratings from international agencies before borrowing. Sanctions are applied to public officials who violate the law.

Peru

While subnational finances have not affected Peru's financial sector or threatened the country's macroeconomic stability, prior to the decentralization process some municipalities had accumulated large debt burdens relative to their fiscal size, particularly short-term municipal obligations in major cities. Before initiating the decentralization process Peru approved a fiscal responsibility law in 2000, which created a fiscal stabilization fund, though it did not establish rules for subnational governments. Although the original law improved transparency and helped slow the growth of the central government's fiscal deficit, the deficit still breached its legal ceiling.

The LPTF was modified in 2003 to require that each subnational government prepare and publish an annual development plan consistent with the national medium-term macroeconomic framework. Deficit ceilings apply at the national and subnational levels, but are indicative for the latter; the national government is responsible for offsetting excessive subnational deficits. Subnational governments require a central government guarantee to contract external debt, which must be used to finance infrastructure. These guarantees must comply with the

²⁶ For example, the subnational government must present a medium-term macroeconomic framework indicating its fiscal and macroeconomic objectives and explaining any deviations from previous targets.

provisions of the annual debt law, including demonstrated repayment capacity. If a subnational government violates its debt ceiling, the central government must use fiscal transfers to finance the debt-service payments.

Although the fiscal responsibility law does not prohibit subnational governments from borrowing domestically without the central government's guarantee, the annual debt law requires that the lack of a guarantee be stated clearly in the domestic debt contracts. The debt law also requires that subnational governments borrowing amounts larger than US\$5 million, with or without a guarantee, have a favorable credit rating from a rating agency. It also establishes a US\$200 million limit on guarantees for subnational debt, which require counter-guarantees from the subnational government.²⁷ To obtain the guarantee the investment project to be financed by the debt must comply with the National System of Investments Law; the government's debt-to-current revenues ratio must not exceed 100 percent; its debt service-to-current revenues ratio must be less than 25 percent; its average primary balance for the last 3 years must not be negative; and its primary balance in the last year of the administration must be positive. Peru's fiscal responsibility law does not establish individual sanctions, but public officials are required to comply with its provisions by the rules and principles of the Public Service Ethic Law.

Source: World Bank

Challenges to the Implementation of the LDFEFM

116. **Enhanced information systems will be necessary to effectively monitor compliance with the LDFEFM.** One of the main weakness of Mexico's subnational indebtedness framework up to now has been the lack of reliable and uniform financial information, and ensuring the transparency and timeliness of fiscal indicators is an especially important challenge. The LGCG establishes general criteria for public accounting and financial reporting, but a large number of states and the majority of municipal governments have not adopted its uniform accounting methodology.

117. **Improvements in financial accounting and reporting are critical to the effectiveness of fiscal rules and the continued development of the subnational credit market.** Fiscal rules require accurate subnational financial and debt information. While the LGCL represents an important improvement in transparency, data limitations and inconsistencies among subnational governments remain. Moreover, issues involving fiscal accounting and debt registration, including short-term debt, and delays in the publication of the fiscal accounts contribute to the opacity of subnational finances.

118. **Adopting medium-term fiscal frameworks will require building the capacity of subnational governments.** The LDFEFM mandates the preparation of medium-term fiscal frameworks, 5-year budgetary projections and to follow budgetary norms as part of its procedural rules²⁸. While some state governments have the technical capacity to design medium-term fiscal frameworks, many state governments and most municipal governments do not. SHCP will therefore need to provide capacity-building assistance to support subnational authorities in fulfilling this and other LDFEFM requirements.

119. **While the LDFEFM's core provisions are simple and clear, additional requirements and regulations may complicate its implementation.** Subnational fiscal rules should be limited to the two or three most necessary to achieve the government's objectives. A small number of highly focused fiscal rules helps avoid micromanagement by the federal government, preserves flexibility at the subnational level, minimizes inconsistent or overlapping rules, and facilitates the monitoring and evaluation process.

120. **Highly indebted governments may require special fiscal adjustments plans.** States and municipalities in unsustainable fiscal situations may require that the rule linking the fiscal balance to indebtedness levels be complemented by specific targets tailored to highly indebted governments. Especially strong monitoring and enforcement measures may also be necessary to return these governments

²⁷ The borrowing threshold and debt limit amounts presented here are from 2005. Current figures may vary.

²⁸ Small municipalities (with a population under 200,000) are required to prepare 3-year budget projections.

to a sustainable fiscal stance. Indeed, transitory rules enabling the signatures of fiscal adjustment agreements between the federal government and highly indebted states are contemplated in the LDFEFM.

121. **Special attention must be paid to the definition of escape clauses and the adjustment paths.** To provide the necessary flexibility in the application of fiscal ceilings and debt limits, fiscal rules often include escape clauses. However, a poorly defined escape clause can undermine the fiscal rule. Escape clauses should be based on credible, transparent, and predetermined indicators. A very limited range of factors should trigger the escape clause. There should be clear legal guidelines for interpreting these factors, and the escape clause should outline a path for resuming compliance with the fiscal rule.

122. **Subnational governments need hard budget constraints, and the federal government should continue to reduce the discretion with which resources are transferred to subnational governments to close financial gaps.** The participation of official development banks should also be revisited. It is expected that the adoption of the LDFEFM and the federal guarantee will reduce the need for development banks to participate in debt-restructuring operations.

123. **While public sector insolvency is qualitatively different from private insolvency, a bankruptcy framework for subnational entities should reinforce a market-based approach to fiscal discipline.** A subnational insolvency law could help to predictably allocate the risk of default while allowing for orderly debt restructuring, effective fiscal adjustment and continued service provision. The international experience in both advanced and developing countries suggests that *ex ante* regulations alone cannot eliminate default risk. Uniform insolvency procedures help stabilize the relationship between subnational borrowing and financial markets. Subnational defaults can seriously affect a nascent subnational credit market, further underscoring the importance of a broad-based insolvency framework.

124. **Insolvency procedures can strengthen hard budget constraints by compelling subnational governments to take responsibility as borrowers.** Standardized restructuring procedures reduce political pressure for *ad hoc* interventions. Enhancing the credibility of the no-bailout promise better aligns federal and subnational incentives, as subnational governments are aware that excessive borrowing will imply painful adjustments. Subnational insolvency procedures also serve larger macroeconomic goals by reducing systemic risk in the banking sector and promoting efficient access to credit.

125. **A bankruptcy framework can facilitate debt restructuring without the involvement of the federal government.** The international experience shows that *ad hoc* debt-restructuring operations between subnational governments and their creditors are difficult to achieve and that a well-designed subnational bankruptcy framework can be instrumental to establishing an orderly recovery process in the event of a subnational debt default. Examples of subnational government bankruptcy frameworks include Chapter 9 of the US Bankruptcy Code, the Hungarian Municipal Insolvency Law and South Africa's Municipal Finance Management Act.

126. **Finally, sound insolvency procedures can help ensure equitable debt collection by creditors, while lowering the costs of borrowing and creating fiscal space for infrastructure investment.** Promoting the robust growth of subnational credit markets requires a transparent framework for allocating risks and losses in the event of a default. The purpose of such a framework is to credibly signal to lenders that debt-restructuring operations will be predictable and equitable and to signal to borrowers that irresponsible fiscal behavior entails consequences. The framework should also ensure that subnational governments are able to continue providing essential public services during the debt-restructuring process.

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MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 4: The Performance Evaluation System



This chapter was prepared at the request of Secretaría de Hacienda y Crédito Público as part of a Reimbursable Advisory Services project, by a team composed of Pedro Arizti (Senior Public Sector Specialist, GGODR), Theo Thomas (Lead Economist, GMFDR), Jorge Luis Silva (Public Sector Specialist, GGODR), Guadalupe Toscano (Public Sector Specialist, GGODR) Eguiar Lizundia (ET Consultant, GGODR), and Lewis Hawke (Head of PEFA Secretariat), under the leadership of Samuel Rodríguez-Freije (Lead Economist, GPVDR), Fernando Blanco (Lead Economist, GMFDR) and Jozef Draaisma (Sr. Country Economist, GMFDR). The authors appreciate the inputs of colleagues Joanna Watkins, Alejandro Medina, Osvaldo Feinstein, Agustín Caso, Gladys López Acevedo, Bruce Stacey, Claudia Maldonado and Guillermo Cejudo.

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EXECUTIVE SUMMARY

Over the last decade the Government of Mexico has made significant progress in introducing performance measures in public programs and expanding the scope of performance information available to policymakers. The implementation of the Results-Based Budgeting and Performance Evaluation System (*Presupuesto Basado en Resultados y Sistema de Evaluación del Desempeño*, PbR-SED), led by the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*, SHCP), introduced specific guidelines and instruments designed to progressively integrate performance indicators into the budget process. The new system includes two instruments to incorporate performance assessments into the budget process: (i) public sector performance monitoring, and (ii) policy and program evaluation.

This chapter examines key measures adopted by the government that are helping to cultivate an enhanced culture of performance monitoring and evaluation in Mexico. Key concepts such as *results-based budgeting*, *performance evaluation*, and *fiscal transparency* are gradually gaining traction in public institutions. Mexico's efforts to strengthen its evaluation system are designed to enhance the efficiency, equity and impact of public spending by informing strategic expenditure policies and guiding the reallocation of resources both within and between sectors.

The chapter focuses on the efficacy of the core functions of the PbR-SED, as well as the contribution of the entire monitoring and evaluation system to the effectiveness of the budget allocation process. Specifically, the chapter: (i) reviews the efforts of the current administration to evaluate public programs; (ii) examines the use of performance monitoring information across the federal government; (iii) makes recommendations to improve the country's evaluation processes and institutions; and (iv) lays out the first steps for initiating a selective spending review to provide a foundation for evidence-based resource allocation. The recommendations presented are intended to assist the Government of Mexico in more thoroughly grounding its budgetary decisions in program performance information and ensuring their full alignment with national policy priorities.

Main Messages

Mexico faces a range of challenges in terms of the quality of performance evaluations and their role in the expenditure planning and budgeting processes. Most of these challenges are rooted in the following systemic weaknesses: (i) suboptimal institutional arrangements; (ii) the limited use of evaluations to inform public policy; (iii) the irregular quality and dubious relevance of some evaluations; (d) the narrow scope of evaluation targets and their focus on programs over policies; and (e) an incomplete public financial management framework.

Inadequate inter-agency coordination reduces the effectiveness of evaluations. The National Performance Evaluation System is comprised of three major evaluating agencies, the National Evaluation Council for Social Development Policy (*Consejo Nacional de Evaluación de la Política de Desarrollo Social*, CONEVAL), SHCP and the Ministry of Public Administration (*Secretaría de Función Pública*, SFP). The distribution of roles and responsibilities between these agencies is not clearly defined, their priorities are not fully consistent, and key functions of the evaluation system are either shared among agencies or not specifically delegated to any institution. No single agency is tasked with ensuring evaluation quality, and there is substantial confusion between internal control and evaluation functions. SFP analyzes performance from an institutional perspective, while SHCP and CONEVAL evaluate performance from a programmatic perspective, and there is no formal process to consolidate evaluation findings prior to the budget allocation process.

Performance information is not systematically integrated into the policy process. The government has made substantial progress in establishing a framework for results-based programming and budgeting. Line

ministries in particular have made a tremendous effort to institutionalize performance information. However, there is little evidence that performance information is directly linked to the budget cycle and the use of evaluations varies considerably from one agency to another.

Evaluation quality is uneven, subjects are not always clearly relevant to priority policy decisions, and incentives are not well aligned with the objectives of the evaluation system. Evaluation standards are neither consistent across agencies, nor reliably adhered to in individual cases. The preparation of the annual evaluation program does not involve the line ministries and agencies to be evaluated, and some evaluations are conducted solely to fulfill legal requirements. The timing of evaluations also frequently reduces their usefulness, as evaluation results often arrive too late to influence budget decisions.

The evaluation system focuses on programs rather than policies. Evaluations are almost exclusively devoted to analyzing federal programs, and only rarely are they aimed at reviewing the effectiveness of broader national or sectoral public policies. This focus on programs is in part the result of the limited connectivity between planning and budgeting systems. The preparation of strategic plans, such as the National Development Plan and sector development strategies, is largely separate from the annual budget process. Evaluations may inform the budget process, albeit subject to the caveats described above, but they are almost never used during strategic planning.

Maximizing the impact of evaluations will require reorienting the budget and public financial management systems to focus on integrating performance feedback. Adopting a revised programmatic expenditure classification that goes deeper in the definition of programs and reorganizes the current structure would provide a strong foundation for the effective use of evaluations and performance information in the budget process. The development of a robust financial management information system and the adoption of international accounting standards such as IPSAS would ensure the availability of sufficiently detailed financial data to support the effective and timely evaluation of public programs and the routine production of reliable, detailed and pertinent performance information.

Conclusions and Recommendations

The government should clarify and align the evaluation roles of SHCP, CONEVAL and SFP. PbR-SED functions should be gradually centralized within SHCP's Performance Evaluation Unit (*Unidad de Evaluación del Desempeño*, UED), which should implement its main evaluation instruments with inputs from the line ministries and the Office of the President. UED should focus on value-for-money evaluations of public programs, which would provide the basis for spending reviews. The Annual Evaluation Program should incorporate input from sector ministries. Sector ministries should also have the resources and discretion to carry out internal program evaluations. CONEVAL should restrict its role to setting evaluation standards and establishing guidelines, but its mandate should be expanded beyond social programs. SFP should refocus on its traditional internal control functions, and a clear distinction should be maintained between internal control and evaluation, especially in terms of their role in the budget process.

Fully integrating performance information into the budget cycle would help to improve expenditure allocations. The evaluation calendar should define objectives and targets for the fiscal year that are aligned with the budget process. Budget ceilings should reflect the findings of performance evaluations as well as agency priorities, and budget estimates should be shared with sector agencies much earlier in the year, allowing them to better plan their expenditures.

The performance evaluation system should expand its focus beyond assessing programs and extend the nascent practice, while still modest and incomplete, to the analysis of public policies and expenditures across sectors. Meta-evaluations should be used to analyze public policies and spending across sectors, while spending reviews should evaluate sector policies and define indicative multiannual

budget allocations. Prospective measures to strengthen the links between sector policies and the National Development Plan should include a mechanism for incorporating performance evaluations into the strategic planning process.

Adopting uniform analytical standards and improving interagency coordination would enhance the quality and relevance of evaluations. Information on program financing, implementation and performance should be integrated into a single evaluation tool. Ensuring that all three major evaluation agencies use the same set of standards supported by a formal quality-control mechanism would improve the consistency and reliability of performance evaluations. Increasing the participation of ministries and other public agencies in the evaluation cycle would help to align the evaluation schedule with sectoral policy priorities.

Finally, the PbR-SED should revisit some key aspects of its original design as a comprehensive results-based management system. The PbR-SED should evaluate public institutions and their staff as well as the performance of programs and policies. A formal mechanism should be established to control the quality of evaluations and the information they produce. Finally, the government should continue to support the implementation of a modern public financial management framework, including the consistent use of programmatic classifiers in the budget, the adoption of a medium-term budget framework, and the full harmonization of public accounting standards.

INTRODUCTION

1. **Over the last decade the Government of Mexico has made significant progress in introducing performance measures in public programs and expanding the amount of performance information available to policymakers.** The Results-Based Budgeting and Performance Evaluation System (*Presupuesto Basado en Resultados y Sistema de Evaluación del Desempeño*, PbR-SED) reform led by the Undersecretary of Expenditures (*Subsecretaría de Egresos*, SdE) in the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*, SHCP) has introduced specific guidelines and instruments designed to progressively integrate performance indicators into the budget process. Evaluation and analysis are among the core elements of the PbR-SED, and its overall objective is to improve the efficiency, equity and impact of public spending by establishing a strong analytical foundation for expenditure decisions. Monitoring results through policy and program evaluations is a key element of the program, and over the years the government has established analytical standards and carried out or contracted evaluations of the country's most prominent social programs, including the flagship *Prospera* (formerly *Oportunidades*) program, a conditional cash transfer scheme.

2. **This chapter explores the government's efforts to foster a culture of performance monitoring, assessment and accountability by promoting results-based budgeting, performance evaluation and fiscal transparency in public institutions.** The chapter assesses the government's current system for evaluating public programs and its use of performance information in the policy process. It then offers recommendations to improve the country's evaluation processes and institutions, including the first steps in the development of a selective spending review that would provide more accurate and comprehensive evidence on which to base the allocation of public resources.

3. **The efficiency of the evaluation process itself is crucial to its effectiveness in promoting strategic expenditure management.** Mexico's evaluation system is underpinned by large and sophisticated institutions, which require a substantial amount of public resources to function. While Mexico spends less on evaluations than other OECD countries, it still devotes a significant amount of its budget to evaluating the performance of the public sector. Fortunately, there is considerable scope for enhancing the effectiveness of evaluations without adding to their fiscal cost. Better use of performance information can improve the efficacy of public spending and inform the allocation of scarce financial and institutional resources.

4. **The analysis presented below combines quantitative and qualitative approaches.** These include a review of the international literature and case studies from comparable countries, interviews with officials from organizations involved in Mexico's evaluation system, and a survey of key stakeholders.

CONCEPTUAL FRAMEWORK

The Trend Towards Results-Based Management

5. **Policymakers around the world are shifting the focus of public expenditure management away from rote compliance with rules and procedures and toward the achievement of specific outcomes.** Generating and using performance information in the public administration is essential to increase accountability and improve expenditure decisions. Reliable performance information enables policymakers and other stakeholders to move beyond understanding how public funds are distributed and instead concentrate on what specific expenditures have accomplished—a fundamental change in perspective that ultimately affects all aspects of the budget cycle.

6. **The results-based management (RBM) approach uses performance information to guide policy decisions.** RBM is based on the principle that achievements matter as much as probity and economy in the use of resources and the expectation that managers and agencies should consistently achieve certain standards of performance. The concept of performance refers not only to outputs or outcomes, but also to managerial arrangements and administrative processes. Performance information can encompass a wide variety of quantitative and qualitative data, including financial statistics, project reports, performance indicators, and evaluations ranging from comprehensive organizational reviews to narrowly targeted staff assessments. Key data sources include the government's internal monitoring and evaluation systems, its performance budgeting framework, internal and external audits and reviews by third-party organizations.

7. **A well-functioning RBM system requires sound monitoring and evaluation mechanisms.** Though closely related and often used interchangeably, these two concepts are distinct. The *OECD Glossary of Key Terms in Evaluation and Results Based Management* defines evaluation as “the systematic and objective assessment of an on-going or completed project, program or policy, its design, implementation and results.” The goal of evaluations is to determine the extent to which objectives such as efficiency, effectiveness, impact and sustainability have been achieved. Evaluations should provide performance information that is credible and useful, enabling lessons learned to be incorporated into the decision-making process. By contrast, monitoring is defined as a “continuing function that uses systematic collection of data on specified indicators (*performance information*) to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds.” The usefulness of monitoring is thus not limited to producing information for evaluations.

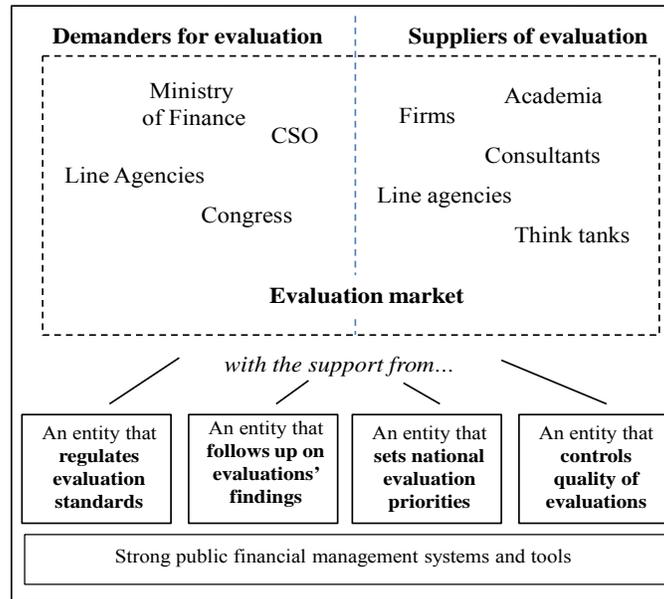
8. **Different methodologies can be used to produce different types of evaluations.** The National Evaluation Council for Social Development Policy (*Consejo Nacional de Evaluación de la Política de Desarrollo Social*, CONEVAL) performs a dozen types of evaluations ranging from impact assessment to design or process analyses.¹ A national public sector evaluation system can be seen as a kind of market, where some parties demand evaluations and other parties supply them. As in any well-functioning market, healthy competition drives down prices and increases quality. And ensuring healthy competition requires regulating standards, monitoring behavior, and setting national policy priorities. Figure 4.1 depicts the basic functions and actors in the national evaluation framework.

9. **A sound evaluation system should be based on six key principles: purpose, independence, credibility, usefulness, participation and dissemination.**² The *purpose* of evaluation is learning and accountability. *Independence* provides legitimacy, reducing the potential for conflicts of interest. *Credibility* reflects the reputation of the evaluator and the transparency of its data sources. *Usefulness* is determined by the pertinence of findings and recommendations to policy goals. *Participation* is critical to learning, credibility, and usefulness, while a broad *dissemination* of findings is fundamental to nearly all evaluation principles.

¹ See <http://www.coneval.gob.mx/Evaluacion/Paginas/Evaluaciones-y-resultados-de-programas.aspx>

² See OECD-DAC *Principles for Evaluation of Development Assistance*
<http://www.oecd.org/development/evaluation/2755284.pdf>

Figure 4.1: Stylized National Evaluation System



Source: World Bank staff

10. **Auditing is distinct from monitoring and evaluation.** Auditing focuses on fiduciary accountability and its independence from management, whereas evaluation uses empirical evidence of the impacts and effects of public policies to aid decision-making. While these functions are generally kept separate, some audit institutions have recently begun developing performance-based audits (Box 4.1). Performance audits are motivated by accountability, while the main objective of evaluation is to enhance the effectiveness of public policy and improve service delivery.³ Although this approach may be useful in certain cases, there is a consensus among practitioners that these functions should remain separate, particularly internal auditing. In fact, the most distinct feature of a national evaluation system is that the evaluation process, while independent, is part of a management cycle that includes planning, budgeting and policy implementation. Auditing is, by nature, separate from that cycle.

Box 4.1: The Auditing Regimes of Supreme Audit Institutions

Responsible for auditing government revenues and expenditures, supreme audit institutions (SAI) vary in terms of their legal mandates, reporting requirements and effectiveness. These differences are reflected in governance systems and government policies. The primary purpose of SAIs is to oversee the management of public funds and verify the quality and credibility of public financial data. SAIs typically report to the legislature and are regarded as an external counterpart to the executive branch agencies tasked with internal audit and control functions.^a

There are three basic SAI models: Audit Office, Court of Accounts and Audit Board. The *Westminster Model* or *Audit Office* is closely linked to the legislature, to which it submits its audit reports. These reports are typically delivered to a Public Account Committee that issues reports and recommendations to the government. This type of SAI does not legally sanction public officials. Australia, Canada, India, and the United Kingdom all employ this model. By contrast, the *Napoleonic Model* or *Court of Accounts* can issue legal sanctions, and public officials may be held personally liable for unauthorized or illegal payments. This model is used in France, Spain

³ As explained in the *OECD Glossary of Key Terms in Evaluation and Results Based Management*, a distinction is made between regularity (financial) auditing, which focuses on compliance with applicable statutes and regulations; and performance auditing, which is concerned with relevance, economy, efficiency, and effectiveness. Internal auditing provides an assessment of internal controls undertaken by a unit reporting to management while external auditing is conducted by an independent organization.

and most of Latin America, where it is an integral part of the judicial system and operates independently of both the executive and legislative branches. This SAI is a court comprised of judges, and it is usually complemented by a high-level legislative accountability mechanism for public expenditures. The *Collegiate* or *Board Model* is similar to the Westminster system, especially in terms of its relationship with the legislature, but it is led by an Audit College or Board instead of an Auditor General. It has no authority to impose legal sanctions. The Board Model is subject to a greater risk of political influence depending on the arrangements for appointing and removing Board members. Countries that use this mode include Japan, Indonesia, and Korea.

In any model the SAI conducts three basic audit types: financial, compliance and performance. Together these form a comprehensive audit framework that provides a complete view of an organization or process. In a *financial* (or *attest*) *audit* the auditor assesses the accuracy and fairness of an organization's financial statements. In a *compliance audit* the auditor checks whether government revenues and expenditures have been properly authorized and used for approved purposes, which includes verifying the expenditure allocations in the annual budget and any relevant legislation. More recently SAIs have expanded their scope to carry out *performance* (or *value-for-money*) *audits*.

Performance audits attempt to determine whether public funds have been used effectively to advance the government's policy objectives. Auditors work closely with technical experts who offer advice and review audit results. The mandate for performance auditing varies among supreme audit institutions. Sometimes it is confined to reviewing operational efficiency. In other cases it extends to reviewing the effectiveness of government programs in achieving their objectives. In some cases SAIs have also carried out audits related to the quality of performance information and/or performance indicators.^b Collaboration with National Statistics Offices may also help to ensure that performance information meets minimum standards of quality.^c

Source: World Bank.

^{a/} Features and functions of supreme audit institutions, PREM Note, The World Bank, 2001.
<http://www1.worldbank.org/prem/PREMNotes/premnote59.pdf>

^{b/} E.g., Australia's National Audit Office or New Zealand's Auditor-General. See:
<http://www.oag.govt.nz/2008/performance-reporting/docs/performance-reporting.pdf>

^{c/} The case of the Framework for Performance Information in the United Kingdom between the National Audit Office, Audit Commission, Cabinet Office, Office for National Statistics and HM Treasury is a good example; see *Choosing the Right Fabric, A Framework for Performance Information*, HM Treasury (2013).
<http://www.nao.org.uk/wp-content/uploads/2013/02/fabric.pdf>

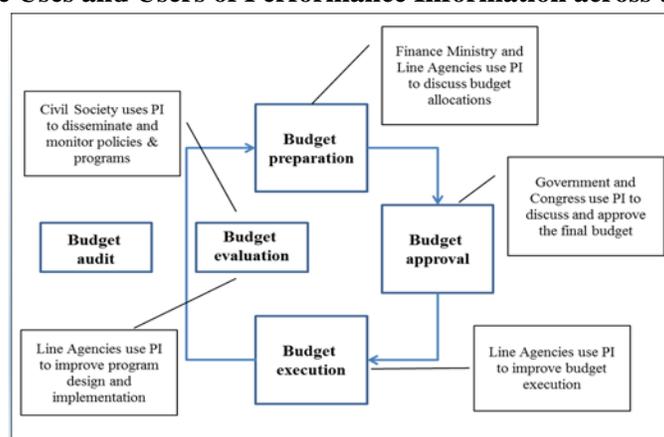
11. **The third pillar of a comprehensive RBM system is performance-based budgeting.** Performance-based budgeting refers to systematic integration of performance information into the budget cycle at the planning, approval, execution and evaluation stages. Decisions should be tightly linked to performance measurements based on verifiable empirical data. Performance measures should be formally institutionalized—that is, based on rules and procedures and assessed through systematic and automatic mechanisms—rather than used on an ad hoc basis.

12. **Performance-based budgeting is designed to increase the allocative efficiency with which public resources are committed to specific policy goals, as well as improving the technical efficiency of expenditure execution.** Providing accurate, comprehensive and relevant performance information to policymakers enables more informed decisions in both strategic planning and expenditure management. Performance information is generated at multiple stages in the budget cycle, and reports can be produced for multiple audiences at each stage (Figure 4.2).

13. **The first opportunity to use performance information arises when line agencies are requested to submit their budget proposals and reach a budget agreement with the central spending authority, which in Mexico is the SHCP.** During the budget preparation process the SHCP sets budget ceilings and then discusses budget proposals with the line agencies. These discussions may be partially informed by performance information, including findings from program and policy evaluations, but there is considerable

scope to use more thorough and comprehensive data at this stage. Once the draft budget has been finalized and submitted to Congress, performance information may be used to underpin subsequent discussions between legislators and SHCP. Expanding the use of empirically rigorous, data-driven performance information could help improve the final budget allocation by encouraging dispassionate, fact-based analysis rather than abstract political debate. Once the budget has been approved and allocated the line ministries execute and implement public programs throughout the fiscal year. At this stage line ministries can use performance information to monitor and, more importantly, improve program implementation by applying lessons learned from previous evaluations. The publication of evaluations also enables civil society organizations and other stakeholders to become better informed about the impact of public programs and policies, enabling them to participate more effectively in the policy process.

Figure 4.2: The Uses and Users of Performance Information across the Budget Cycle



Source: World Bank staff

Technical Foundations of Performance-Informed Budgeting

14. **Maximizing the usefulness of performance information and evaluation findings across the budget cycle requires aligning the budgeting and management systems.**⁴ This entails not only introducing performance information systems into the budget process, but also changing incentives among participants and stakeholders. Increasing administrative capacity, simplifying processes and increasing the discretion of program managers may be necessary to establish a well-functioning RBM system, as well as the consistent and universal application of budget classifications (functional, economic and programmatic), the establishment of a robust financial management information system (possibly based on accrual accounting), and the adoption and use of a medium-term budget framework. International standards and best practices can be used to benchmark the implementation of these systems.

15. **A detailed, consistent and comprehensively applied system of budget classifications is fundamental to the effective use of performance information in the budget process.**⁵ Budget classification allows the government to organize and rationalize its expenditures, signal political priorities, and consolidate budget allocations and expected results in a single instrument. Budget regulations and laws should mandate that budget classifications explicitly link programs and administrative actions to specific public policies.

⁴ Arizti et al., 2010

⁵ See, e.g. the UN's "Classification of the Functions of the Government (COFOG)" and the IMF's Government Financial Statistics classification system.

16. **Rigorous evaluations require high-quality data presented in a format that facilitates analysis, and an integrated financial management information system (IFMIS) can provide the foundation for timely, credible evaluations.** A robust IFMIS that conforms to international accounting standards is essential to the routine monitoring and evaluating public programs. A national-level IFMIS includes information on budget management, accounting, procurement and the public accounts. Without proper accounting and reporting of financial transactions it is impossible to verify whether funds have been spent as intended or gauge the extent to which they have generated value for money. The absence of accurate, sufficiently disaggregated, and regularly published financial information prevents policymakers from monitoring the performance of agencies and programs and limits their ability to hold managers accountable for results. All government financial statements should be harmonized and consistent with international standards.

17. **In addition to introducing standardized budget classification systems and IFMIS, medium-term expenditure frameworks are becoming increasingly popular in countries around the world.** The medium-term fiscal framework (MTFF) is the simplest form of medium-term expenditure planning and has had demonstrably positive effects on expenditure control and fiscal discipline.⁶ Some countries have gone on to adopt medium-term budget frameworks to further improve allocative efficiency. Finally, a few pioneering countries have adopted medium-term performance frameworks designed to enhance technical efficiency and service delivery by including performance metrics for multiyear programs.

18. **A well-functioning medium-term budget framework must include both *top-down* and *bottom-up* planning processes.** Strategic budgeting should facilitate the reallocation of resources toward policies and programs with a proven record of achieving their intended results. Thus, the budget should ideally have a medium-term perspective that links financing, particularly capital investment, to stated policy objectives. In addition to top-down budgeting processes, such as setting expenditure ceilings, an MTFF enables consensus-building through bottom-up processes, in which allocation decisions are informed by the priorities of line ministries or other spending agencies. Mechanisms designed to encourage the use of performance information in budget negotiations between the central spending authority and line agencies enable expected outputs to be specified in advance and mutually agreed-upon.

Spending Reviews

19. **A spending review⁷ is a specific type of evaluation that is explicitly intended to inform budget decisions.** Unlike regular program or agency-led evaluations, which are typically more focused on internal processes and program elements, spending reviews proceed from the perspective of the annual budget or MTFF. The spending review process is usually led by the central spending authority (SHCP in Mexico), possibly in partnership with other central agencies such as the chief executive's office. The spending review's completion is often timed to coincide with budget preparation. Because some reforms may take significant time to implement, spending reviews should be linked to the MTFF as well, and they can even be used to strengthen the link between the MTFF and the budget process. While a spending review may also have broader performance improvement objectives or other secondary goals, a review process that aims solely at performance improvements—without the explicit aim of reallocating funding between existing programs—does not constitute a spending review.

20. **Spending reviews can either reduce aggregate expenditures, or open fiscal space to prioritize new spending while remaining within overall fiscal limits.** Spending reviews aim to identify options for budgetary savings either through improving efficiency or reducing ineffective or low-priority expenditures.

⁶ World Bank, 2013.

⁷ Different countries use different names, such as “strategic policy reviews” (Australia), “strategic program reviews” (Canada), “interdepartmental policy reviews” (the Netherlands), and “the program assessment rating tool” (United States).

Any savings options identified via a spending review are, by definition, targeted savings, as opposed to across-the-board budget cuts.⁸

MEXICO'S PERFORMANCE MONITORING AND EVALUATION SYSTEM

21. **In Mexico, performance information is produced and assessed according to the guidelines set forth by the Performance Evaluation System (*Sistema de Evaluación del Desempeño, SED*).** The SED was established in 2007 as part of a broader effort to adopt a Results-Based Budget (*Presupuesto basado en Resultados, PbR*). Grounded in the principles of results-oriented management (*Gestión por Resultados, GpR*), the PbR attempted to shift focus from the analysis of inputs and processes to the measurement of results achieved by public programs. This effort ultimately produced the PbR-SED, a system that utilizes both instruments to incorporate results indicators and performance information into the resource-allocation process. The PbR-SED was also intended to reduce budgetary inertia by linking expenditures to specific objectives defined in the National Development Plan (*Plan Nacional de Desarrollo, PND*), as well as sector-specific and institutional strategies.

22. **The implementation of the PbR-SED required changes the Fiscal Coordination Act, the General Government Accounting Act, and the Constitution.**⁹ In addition, Congress approved in 2006 the Budget and Fiscal Responsibility Act (*Ley Federal de Presupuesto y Responsabilidad Hacendaria, LFPRH*) to require public institutions charged with assessing performance to use indicators to verify progress toward stated targets and goals.¹⁰ In 2008 the government launched the Management Improvement Program (*Programa para el Mejoramiento de la Gestión, PMG*)¹¹ with the goal of enhancing the operation of the Federal Public Administration (*Administración Pública Federal, APF*) through a results-based approach. Under the current administration this effort has fed into a cross-cutting management policy, the Program for an Accessible and Modern Government (*Programa para un Gobierno Cercano y Moderno, PGCM*), which aims to increase government efficacy and promote public trust by strengthening the results-based budgeting approach and improving management in the APF.

23. **Under the LFPRH mandate SHCP, along with the Ministry of Public Administration (*Secretaría de Función Pública, SFP*), created the SED to measure the performance of federal programs and institutions.** The SED aims to align the goals of federal programs and institutions with the macro-level objectives set forth in the PND, while also establishing the monitoring and evaluation mechanisms necessary to assess progress and measure results. According to the LFPRH, the SED “comprises the body of methodological tools that allow for an objective assessment of the performance objectives of federal programs [...] based on strategic performance and management indicators.”¹² These include preparing the Results-Indicator Matrix (*Matriz de Indicadores para Resultados, MIR*) as part of the strategic planning process of each budget program. The MIR defines (a) expenditure objectives; (b) alignment with the PND and sector strategies; (c) procurement needs; (d) procurement activities; (e) indicators for monitoring and evaluating outcomes; (f) information used to verify indicators; and (g) risks to program performance. The MIRs are based on the logical framework methodology.

⁸ Vandierendonck, C., 2014. “Public Spending Reviews: Design, Conduct, Implementation” European Commission Economic Papers 525; and OECD, 2011. “Typology and Implementation of Spending Reviews: Discussion Paper.

⁹Articles 6, 73, 74, 79, 116, 122, and 134.

¹⁰ Article.7

¹¹ Programa Especial de Mejora de la Gestión en la Administración Pública Federal 2008-2012, PMG.

¹² “El conjunto de elementos metodológicos que permiten realizar una valoración objetiva del desempeño de los programas, bajo los principios de verificación del grado de cumplimiento de metas y objetivos, con base en indicadores estratégicos y de gestión que permitan conocer el impacto social de los programas y de los proyectos.” LFPRH, Article 2, fraction LI, available at: http://www.diputados.gob.mx/LeyesBiblio/pdf/LFPRH_110814.pdf

24. **The SED assesses federal programs through three main tools: performance and quality of expenditure evaluations, external program evaluations and the comprehensive information performance model (*Modelo Sintético de Información del Desempeño, MSD*).** Expenditure performance and quality evaluations are produced on a quarterly basis using MIR indicators. SHCP’s online portal (*Portal Aplicativo de la Secretaría de Hacienda, PASH*) publishes performance information throughout the fiscal year.

25. **External evaluations are conducted as part of the Annual Evaluation Program (*Programa Anual de Evaluación, PAE*), under Article 110 of the LFPRH and the General Guidelines for the Evaluation of Federal Programs.** These guidelines were jointly determined by the SHCP, the SFP and CONEVAL. They regulate the types of evaluations to be conducted, specify the dissemination of results and define the schedule for the PAE. The SHCP, SFP and CONEVAL jointly select and monitor the external program evaluations. All evaluations include a section that lists potential areas for improvement and defines a mechanism for monitoring progress in those areas (*Mecanismo de Seguimiento de Aspectos Susceptibles de Mejora, MSASM*). The administrative units in charge of budget planning, execution and evaluation select areas for improvement from the evaluation reports. These areas for improvement are then classified as specific, institutional or inter-institutional depending on the level of coordination required to address them. The relevant offices, institutions or inter-institutional partnerships are then responsible for preparing a work plan that includes commitments, activities and a timeline. PAEs must be published on the website of SHCP, SFP, the relevant institution’s website as well as published and updated on a dedicated online platform operated by CONEVAL.

26. **The MSD aims to consolidate and synthesize performance information for federal programs.**¹³ The MSD includes (i) an analysis of budgeted versus actual expenditures, (ii) the MIR, (iii) the PAE, (iv) progress on identified areas for improvement, and (v) information from the Government Program Beneficiary Census/Integrated Registry Information System.¹⁴ The MSD uses a formula based on weighed values for each of these variables, and the results are interpreted according to a pre-established reference framework.

27. **SED-produced performance information is intended to be a key input in the budget programming process.** By incorporating performance data into the decision-making process, the SED is expected to inform budget planning and programming. The SED-produced information is added into the federal expenditure budget (*Presupuesto de Egresos de la Federación, PEF*) through program indicators aimed at providing data on, among other areas, methodological tools, alignment, consistency, opportunity, recommendations, and areas for improvement (*Aspectos Susceptibles de Mejora, ASM*).

28. **The SHCP, SFP, and CONEVAL are the steering entities of the SED.** The SHCP and SFP are responsible for evaluating all federal programs—the former from a policy perspective and the latter from a managerial one¹⁵—while CONEVAL’s mandate is limited to social development programs. Within the SHCP the Performance Evaluation Unit (*Unidad de Evaluación del Desempeño, UED*) “coordinate[s] the evaluation of strategic performance as defined by the LFPRH, as well as its monitoring, based on the GpR strategy and the PbR-SED”.¹⁶ The UED does not conduct evaluations directly, but is in charge of the overall coordination of the PdR-SED.¹⁷ The UED is responsible for formulating and issuing operation guidelines

¹³ Only those APF programs defined as “programmable” spending.

¹⁴ This is an IT tool currently being developed by the SFP that integrates the beneficiary registers of APF programs as well as some subnational programs in an information system that facilitates strategic planning, effective implementation, and comprehensive evaluation of public programs.

¹⁵ The 2015 budget includes 889 federal budget programs.

¹⁶ SHCP General Organization Manual.

¹⁷ As established in article 63 of SHCP’s General Organization Manual and section 1.3.3. of its Internal Code (*Reglamento Interno*).

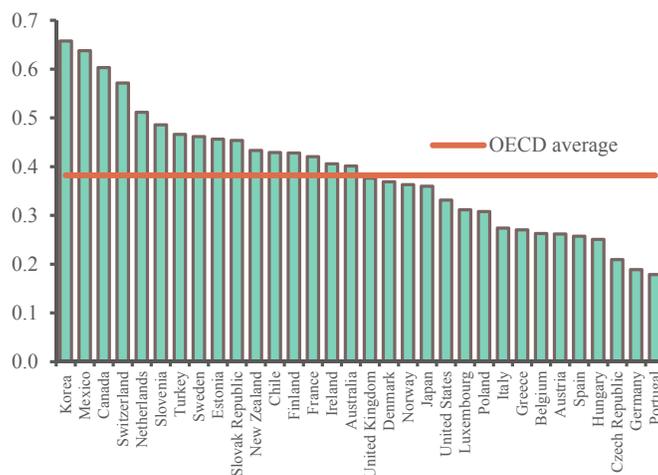
for the SED, including strategic objectives and indicators, and it coordinates the preparation and submission of the annual evaluation program jointly with SFP and CONEVAL. The UED is also charged with monitoring progress on the areas for improvement identified in the PAE and ensuring the dissemination of evaluation results.

29. **The UED coordinates the implementation of the PGCM, a transversal strategy under the PND aimed at achieving a results-oriented government.** The PGCM was launched in August 2013 to promote efficiency and cost savings, eliminate duplication, improve evaluation, simplify standards, and enhance accountability through the use of information technology as mandated by Article 61 of the LFPRH. The PGCM comprises 5 objectives, 28 strategies and 209 action lines encompassing all government entities, and its impact is assessed based on 10 results indicators. The PGCM, as stated in its second objective, aims to leverage the PBR-SED to facilitate the transition to a results-oriented government.

30. **The SHCP has made substantial progress in strengthening the budget planning system and aligning expenditures with national policy objectives.** The UED developed the *Technical Guidelines for the Elaboration of Programs Derived from the National Development Plan 2013-2018*, which seek to ensure that public policies and programs contribute to PND objectives. As part of this initiative sector programs have been created for the APF for the first time. Despite its top-down approach, which focused on consistency between government actions and policy objectives and did not allow for a thorough assessment of whether these programs were the appropriate means to achieve the government’s policy goals, this nevertheless represents a positive first step.

31. **The UED has also helped promote the universal application of the logical framework methodology across government entities.** Today, most budget programs have results-based matrices, which link output and result indicators within each fiscal year. All results-based matrices are integrated into the Federal Budget Project (*Proyecto de Presupuesto Egresos de la Federación, PPEF*) that is submitted for congressional approval. These matrices and overall performance information are uploaded and managed through PASH. However, a routine mechanism to effectively associate results-based matrices, evaluation results, and budget programming has not yet been developed, and while this information is used, it is not used systematically. Figure 4.3 illustrates Mexico’s high rank among OECD countries in terms of the formal establishment of a performance budgeting system. Yet, this index only reflects the existence of a framework, not how it operates in practice.

Figure 4.3: OECD Performance Budgeting Index



Source: 2012 OECD Budget Practices and Procedures Survey

32. **The SFP has two primary mandates: maintaining internal controls and improving public sector management in the APF.** Traditionally, the SFP has carried out key fiduciary functions through the internal control offices located in each federal agency. However, the SFP is also responsible for building the capacity of public institutions in areas such as procurement, human resource and asset management, and e-government systems. The SED was designed to provide two kinds of data on the performance of public programs and organizations as inputs to the budget cycle: (i) data on the outputs and effectiveness of public expenditures; and (ii) data on the quality of public management, which was the focus of the PMG and is the motivation for the Evaluation Model of the Institutional Management (*Modelo de Evaluación de la Gestión Institucional*, MEGI) that is being implemented by the current administration.¹⁸

33. **The PMG was designed to promote the formulation of Performance-Management Agreements with individual departments and agencies.** The PMG used a standardized institutional module that requires departments and agencies to make steady improvements in “horizontal” administrative reforms implemented across the government. These included internal regulation, institutional efficiency, procedural streamlining, service provision, expenditure reduction, e-government systems, procurement management, strategic planning, human resources management and administration of government property.

34. **Within the SFP the Government Management and Performance Evaluation Unit (*Unidad de Evaluación de la Gestión y el Desempeño Gubernamental*, UEGDG) is in charge of performance management evaluation.** The UEGDG has an inter-institutional coordination mandate and can issue guidelines and criteria for evaluating public policies and institutions. It operates in partnership with the Control and Public Management Unit and contributes to the mission of the SED. The UEGDG validates institutional performance indicators for SFP, establishes evaluation criteria and methodologies, analyzes and disseminates evaluation information, and makes recommendations to public entities. The UEGDG developed MEGI and launched its first application in August 2014.

35. **CONEVAL was created in 2006 through the General Law on Social Development; its mandate is to “improve the efficiency, effectiveness, and accountability of social development policy through the monitoring and evaluation of social programs and policies and the measurement of poverty.”**¹⁹ CONEVAL regulates and coordinates the evaluation of the National Social Development Policy along with related programs and interventions. It also establishes guidelines and criteria for defining, identifying and measuring poverty through transparent, objective and rigorous techniques.²⁰

36. **CONEVAL evaluates and monitors social development²¹ programs through information gathered in the Federal Social Development Program Database, which assesses programs according to 111 discrete variables.** These variables include measures of social and economic wellbeing, specific policy objectives, alignment with the PND, program coverage, budget data and external evaluations.²²

37. **Over time SHCP, SFP and CONEVAL have established the foundation for an integrated evaluation policy.** These three institutions have developed a sound methodology for evaluating programs based on the models set forth in the General Guidelines for the Evaluation of Federal Programs (Box 4.2) Furthermore, regular collaboration with external evaluators, including independent researchers,

¹⁸ MEGI is a quantitative instrument that seeks to analyze the way that institutions use their human, technological, material and financial resources in order to achieve targets and fulfill their institutional and program objectives.

¹⁹ More details on CONEVAL’s strategic objectives can be found at:
<http://www.coneval.gob.mx/quienessomos/Paginas/Objetivo-Estrat%C3%A9gico.aspx>

²⁰ Artículo 3 del Decreto por el que se regula el Consejo Nacional de Evaluación de la Política de Desarrollo Social, disponible en: <http://www.coneval.gob.mx/rw/resource/coneval/quienes/1814.pdf>

²¹ According to CONEVAL, the average number of programs under its purview since 2008 is 262: *Presentación y análisis del inventario 2013-2014*, www.coneval.gob.mx/Evaluacion/Paginas/inventario_nacional_de_programas_y_acciones_sociales.aspx

²² Sitio del Consejo Nacional de la Política de Desarrollo Social sobre el Inventario Nacional de Programas y Acciones Sociales: http://www.coneval.gob.mx/Evaluacion/Paginas/inventario_nacional_de_programas_y_acciones_sociales.aspx

universities, consulting companies, and civil organizations, has contributed to building a market for evaluations and a culture of analysis and accountability in Mexico's public administration.

Box 4.2: Types of Evaluations Used in the Mexican Public Sector

Consistency and results evaluations systematically analyze the design and performance of federal programs using results-based matrices. This type of evaluation depends on secondary sources, can be conducted rapidly and is used to determine a program's strengths and weaknesses.

Indicator evaluations analyze the quality of indicators and results-based matrices in terms of their clarity, relevance, cost effectiveness and ability to be monitored. This type of evaluation assesses, through fieldwork, the appropriateness and scope of a program's indicators for monitoring results.

Process evaluations aim to determine, through fieldwork, whether a program's operational mechanisms support the effective and efficient achievement of program objectives. This type of evaluation can be useful in identifying bottlenecks in output delivery.

Impact evaluations assess changes in outcome-level indicators as a result of program activities through the use of rigorous methodologies.

Specific evaluations assess specific aspects of programs either through desk research or fieldwork.

Strategic evaluations contribute to institutional learning on subjects including strategic decision-making, policy determinations and institutional processes.

Source: General Guidelines for the Evaluation of Federal Programs

38. **Congress also plays a significant role in the evaluation process.** The Constitution endows the Chamber of Deputies with its evaluation authority, which is regulated through several laws and legislative agreements.²³ The Chamber of Deputies is responsible for approving the federal expenditure budget, which is based on the PPEF and includes performance information. Congress holds the executive branch accountable by submitting written questions and requesting the appearance of ministers and other members of government before both chambers. The government is also required to present formal reports about the general state of the APF and to respond to requests for information. Finally, Congress exerts its control and oversight capacity through the Supreme Audit Institution (*Auditoría Superior de la Federación*, ASF) of the Chamber of Deputies.

39. **The ASF was established in 2001 to strengthen legislative oversight.** It is responsible for the external and ex-post control of revenues and expenditures in all three branches of government, the constitutional autonomous entities (*órganos constitucionales autónomos*), the states and municipalities. The ASF exercises control over programmatic line items in the public accounts, which the SHCP publishes annually, but does not intervene in projects that are already underway. It conducts performance audits of federal programs and federal resources transferred to subnational governments. These audits assess the "value for money" of federal programs in terms of their operational efficiency and effectiveness in achieving stated goals.

40. **The National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*, INEGI) collects data on poverty statistics and serves as an important source of information for evaluations of federal programs.** At the national level INEGI collects data through several household surveys, including a module designed by CONEVAL that feeds into multidimensional poverty calculations.

²³ Ley Orgánica del Congreso General de los Estados Unidos Mexicanos, Ley de Planeación, and Ley de Fiscalización Superior de la Federación.

At the subnational level INEGI helps to strengthen the statistical and monitoring and evaluation capacity of state institutions. In addition, INEGI publishes guides and tools to standardize and enhance the quality of statistical and geographic data.

41. **Civil society and academia also serve an important role in Mexico's national evaluation system, both demanding and supplying performance evaluation data.** Since the 1990s civil society organizations and academic institutions in Mexico have increasingly concentrated on program and policy evaluation. Focus areas have included the use of performance information to promote transparency and accountability, reduce corruption and improve public policymaking. Many of these organizations use performance information, including data published on the Fiscal Transparency Portal (*Portal de Transparencia Presupuestaria*)²⁴ to conduct their own evaluations and publish reports for public consumption. This includes the Center for Research and Teaching of Economics (*Centro de Investigación y Docencia Económicas*, CIDE).

DIAGNOSTICS

42. **The SED was designed to be a comprehensive results-based management system.** Its goal was to provide two types of performance data on public programs to be used as inputs in the budget cycle: (i) consolidated data from program evaluations focusing on the outputs, impact and effectiveness of public expenditures; and (ii) data on the quality of public management. However, over the years the SED has in effect prioritized the generation of evaluations and the monitoring of public programs through the MIR. The remaining sections and recommendations focus on processes and tools relating to the SED's evaluation function, although improvements are also needed in areas originally covered by the PMG, i.e. the management of back-office functions in public agencies.

43. **Mexico must address several key challenges with regards to public sector performance evaluations and the use of performance information to improve public planning and budgeting.** There is empirical evidence that Mexico is not effectively implementing its result-based budgeting approach, and government agencies, states authorities and Congress all face obstacles in using evaluation tools to improve public expenditure efficiency. Challenges include limited technical capacity among policymakers; low institutional capacity for planning as a result of tight deadlines within the budgeting process; the absence of incentives for stakeholders to promote the use of evaluation mechanisms; an inadequate number of impact evaluations to improve the design of social programs; the poor performance of evaluators; the improper design of goals and performance information; and the poor quality of performance information. Most of these issues are rooted in overarching systemic features, including: a suboptimal institutional setting, limited use of evaluation information, irregular quality and relevance of evaluations, narrow scope of evaluation efforts, and an incomplete public financial management (PFM) framework. Each of these features is detailed below.

Suboptimal Institutional Setting

44. **Mexico's public evaluation system suffers from a lack of coordination and an unclear division of roles and responsibilities among the three major agencies responsible for evaluations.** The legal framework governing evaluation policy is overly general and does not define specific functions for each agency, allowing for excessive discretion among agencies with regards to evaluation mechanisms and settlements.²⁵ For example, clear rules have not been established for selecting the types of evaluations to be

²⁴ <http://www.transparenciapresupuestaria.gob.mx/>

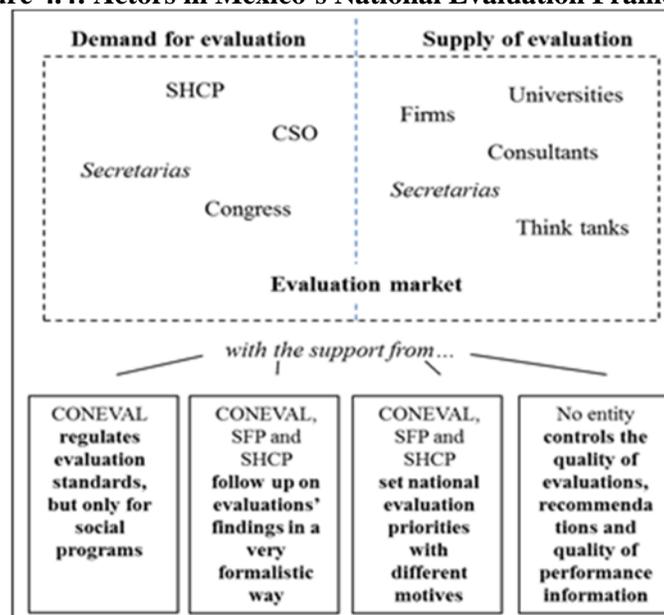
²⁵ Art. 31 of *Ley Orgánica de la Administración Pública Federal* attributes SHCP responsibilities in terms of monitoring and evaluation functions, including the preparation of the National Development Plan and the evaluation of public investment projects. Art.37 of the same law also provides SFP with public spending evaluation and control functions.

conducted each year under the PAE. As a result, each steering agency has significant discretion to coordinate and define the PAE each year. This is a source of systemic inefficiencies in terms of processes, management and the general duplication of activities.

45. **Most of the key functions of the national evaluation system are either shared among agencies or not covered by any institution.** CONEVAL has been a leader in setting evaluation standards, adopting new tools and undertaking new evaluation types. However, it is still restricted to social programs. The SHCP and SFP are tasked with evaluating all other programs, but there is no clear division of roles between them. Responsibility for setting evaluation priorities and for following up on evaluation findings is shared between all three institutions. The SHCP may issue the guidelines that regulate the SED with or without the participation of the SFP and CONEVAL.

46. **The lack of coordination between the SHCP, SFP and CONEVAL creates deficiencies in the evaluation of key programs.** For example, there is no comprehensive monitoring and assessment tool for the MIR. The SFP is legally responsible for reviewing activities and components, whereas the SHCP focuses on objectives. Both elements are critical to fully understand a program, but there is no formal link between these complementary analyses, nor is there a formal mechanism for integrating both inputs into the budget process. Even though a system for creating a PAE is in place, the current allocation of responsibilities is not ideal, as the agency that conducts an evaluation should not also be tasked with following up on its results. CONEVAL excels at implementing evaluations, developing analytical tools and indicators and providing training. Its focus should not be on operational issues, for which it is not equipped.

Figure 4.4: Actors in Mexico’s National Evaluation Framework

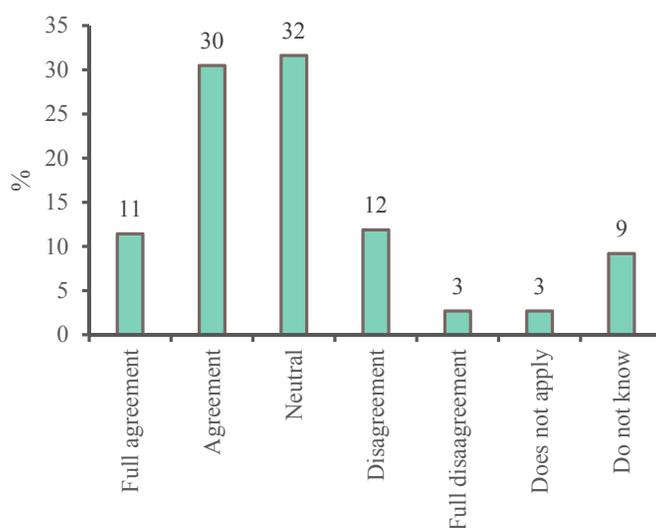


Source: World Bank staff

47. **There is also confusion between the internal control and evaluation functions.** One key challenge when assessing governmental performance is to distinguish internal control activities (i.e. auditing) from evaluation activities (i.e. program and policy assessment). Failure to separate the two results in inter-institutional redundancies and other inefficiencies. In Mexico the evaluation system is often viewed more as a compliance tool than as an instrument for measuring the effectiveness of programs or the efficiency of budget allocations. The confusion of evaluation with auditing has been confirmed by interviews conducted for this chapter. The SFP, through its internal control bodies, should perform internal audits with a clear fiduciary and anti-corruption mandate that is separate from evaluation, which focuses

on program effectiveness and expenditure efficiency. Applying auditing principles to evaluation distorts the meaning of both. Involving the SFP in the evaluation system has created a perception among program managers that evaluations are an auditing and control device, not a management and learning tool. Also, the participation of the internal control bodies in implementing evaluation follow-up instruments like MSASM have led to a focus on formalities over substance. Figure 4.5 shows the results of a World Bank survey conducted for this chapter, which asked budget officers in sector ministries to gauge the usefulness of the MSASM. Few disagree with the statement that it is basically focused on formalities and control rather than on trying to improve programs.²⁶

Figure 4.5: MSASM: What is your level of agreement?
“The MSASM work plan prioritizes internal control over program improvement.”



Source: World Bank survey

Limited Use of Performance Information in the Mexican Public Sector

48. **Mexico has made substantial progress in establishing the foundation for results-oriented programming and budgeting.** Since 2008 a series of reforms have been implemented with the goal of integrating performance information into the budget planning and programming process. Key steps include: (a) the introduction of the MIR to ensure that policy actions are aligned with objectives; (b) the development of the PAE; (c) the drafting of normative guidelines for results-based matrices and the stages of the program evaluation cycle; (d) the creation of instruments for collecting, organizing and presenting performance information (PASH, MSASM, MSD and the fiscal transparency portal); and (e) the launching of a permanent training program to strengthen ministries’ technical capacity for employing performance-based budgeting techniques, the logical framework methodology and results-based matrices. As a result of these

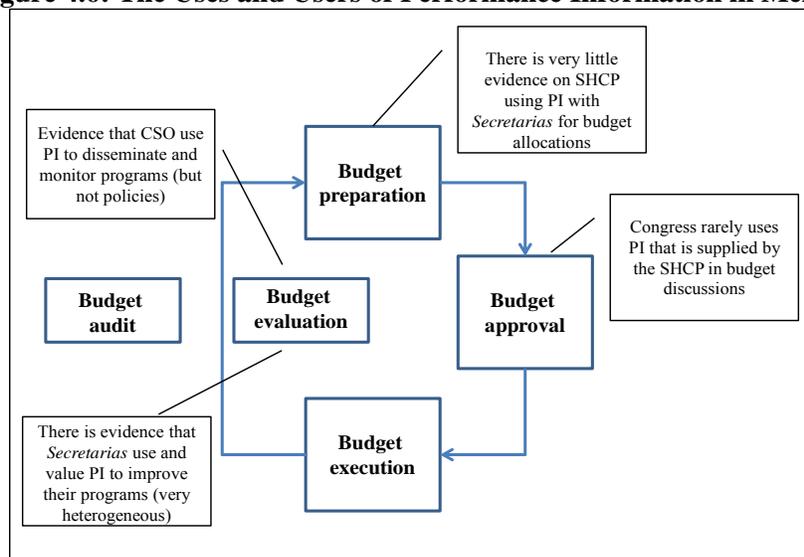
²⁶ The *Guidelines for Internal Control Standards for the Public Sector*, published by the International Organization of Supreme Audit Institutions (INTOSAI), clearly distinguishes internal control from evaluation. These guidelines define internal control as an integral process: “[Internal control is] designed to address risks and to provide reasonable assurance that in pursuit of the entity’s mission, the following general objectives are being achieved: (1) executing orderly, ethical, economical, efficient and effective operations; (2) fulfilling accountability obligations; (3) complying with applicable laws and regulations; and (4) safeguarding resources against loss, misuse, and damage.” INTOSAI also recognizes that internal control activities do not by themselves ensure the achievement of the general goals of an institution or public policy, and that performance evaluation is necessary to guide institutional and policy development and inform efficient budget allocation.

efforts 813 government programs (96 percent) now use performance information, 602 employ results-based matrices and 211 have established a performance information database for internal use.

49. **The line ministries have made tremendous efforts to institutionalize performance information.** The APF has progressively improved program design, expanded the use of the logical framework methodology, implemented an annual results-based planning tool (MIR), and routinized the evaluation process. Line ministries have been especially successful in adopting the SED at the program management level, creating appropriate administrative structures and processes for performance evaluation, and some institutions and programs have created strong monitoring and evaluation mechanisms. The AFP has worked to develop a common institutional language for result-based management, and performance information it produces is largely consistent and systematic.

50. **However, performance information is not always utilized effectively to inform the budget cycle.** Figure 4.6, adapted from the conceptual framework, summarizes the potential users and uses of performance information at different stage of budget cycle. SHCP’s budget allocation process makes some use of the performance information produced by line ministries, but results-based matrices are approved late in the budget formulation process and are prepared under the assumption of an incremental budget. Members of Congress make limited and uneven use of performance information. Performance data are significantly utilized only during budget execution, and then mostly by civil society groups, which draw on them for accountability and transparency purposes.

Figure 4.6: The Uses and Users of Performance Information in Mexico



Source: World Bank team

51. **The underutilization of performance information begins at the planning and programming stages.** The budget preparation process does not draw heavily on performance information. This is due in part to the centralization of the budget process under the SHCP. Budget appropriations are currently defined by the Undersecretary of Expenditures (*Subsecretaría de Egresos*, SdE). Since the use of results-based matrices is limited during the formulation stage, budget programming officers rarely define budget ceilings or allocations based on them.²⁷ Officials responsible for preparing the results-based matrices and those in

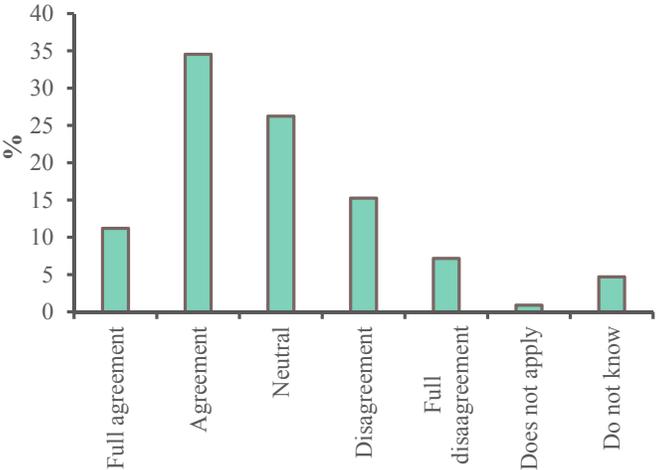
²⁷ During 2014/15 CONEVAL developed a pilot methodology to monitor use of performance information, specifically the MIR. This pilot survey was applied to a sample of nine social programs to develop an indicator to track the use and usefulness of the MIR. Early findings show that the MIR is mostly used for evaluation, and least used during budget discussion and resource allocation between sectors and SHCP. It seems that the use is also heterogeneous by agency and SEDESOL seems to be agency

charge of integrating budget data do not routinely interact or have formal or even informal mechanisms to discuss programming. Furthermore, budget officials are often unaware of the findings of results-based matrices from previous years. The same applies to other performance information instruments such as the MSD as well as the results of program evaluations.

52. **The current budget calendar and the top-down approach to budgeting are key constraints on the use of performance information.** SHCP communicates the programmatic structure of the budget to line ministers by the end-June, enabling them to start the internal budget process. SHCP establishes the budget ceiling for each program, and the line ministries are not consulted on this. Budget ceilings are then communicated by end-August, and by law the Budget Decree must be presented to Congress for approval by September 8th. In 2015 the line ministries were informed of the budget ceilings on August 23rd and asked to have their budgets submitted to the budgeting platform by August 26th. This very short timeframe underscores the challenges faced by line ministries in proposing evidence-based changes to the budget proposal. In general, there is a strong perception among budget units that budgetary inertia largely determines program targets (Figure 4.7). Reducing the influence of budgetary inertia has been primary objective of the SED from its inception.

53. **Congress also makes little use of performance data during the approval process.** Members of Congress rarely use performance information during budget discussions, and as a result the approved budget typically does not reflect the results-based matrices. Moreover, the political and institutional dynamics of the Mexican legislature do not always promote evidence-based debate, and single-term limits reduce incentives for legislators to build their evaluation capacity.

Figure 4.7: Budget Inertia: What is Your Level of Agreement?
“Program targets are defined under a strict inertial budget assumption.”



Source: World Bank survey

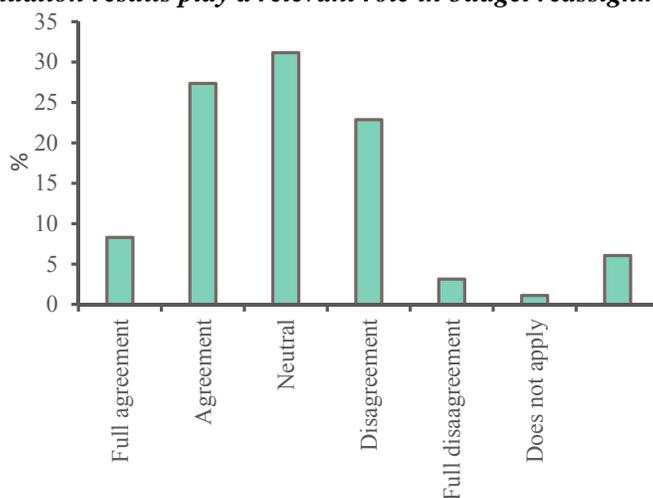
54. **The use of performance information increases during budget execution.** Line ministry officials confirm that performance information, including evaluation recommendations, is taken into account when programs are restructured or reoriented during implementation. However, performance information is used unevenly by different agencies and programs, and some useful tools such as PASH are employed solely for recording information rather than informing management decisions. As shown in Figure 4.8, around 35 percent of survey respondents reported that evaluations results play a relevant role in budget reassignment,

that use the MIR the most. Further details can be consulted in: “*Diagnóstico de monitoreo de los programas y acciones de desarrollo social 2015: Análisis sobre la calidad y la sostenibilidad de los indicadores*”, CONEVAL, 2015 (forthcoming).

while 31 percent were unsure, and 26 percent reported that their role was not relevant. Box 4.3 discusses the results of a 2013 survey of the quality and usefulness of performance information in Australia.

55. **Mexico has made substantial progress in using performance evaluations to promote transparency and accountability.** In recent years the government has greatly expanded the publication of budgetary information, and the Federal Expenditure Budget Portal now publishes the exact resource allocation for all government entities and disaggregated at the unit level.²⁸ These data and the evaluations published by SHCP, SFP and CONEVAL have enabled NGOs to assess the performance of certain programs. For example, the INDEP 2014 analysis carried out by GESOC, assessed 182 programs in terms of their coverage, design quality, and capacity to achieve their goals.²⁹

Figure 4.8: Use of Evaluations: What is Your Level of Agreement?
“Evaluation results play a relevant role in budget reassignment.”



Source: World Bank survey

Box 4.3: The Use of Performance Information in Australia

In 2013 a survey of Australian government entities attempted to gauge perceptions of the quality and usefulness of performance information and to identify specific factors affecting the quality and usefulness of information. According to 87 percent of respondents the main purpose of collecting performance information was compliance with external requirements. 71 percent thought performance evaluations were developed for monitoring operations and targeting areas for improvement. Only 51 percent reported that their own agency had a strong interest in performance information.

Most agencies conducted performance evaluations, both for the agency as a whole and for its individual workers; however, fewer than half reported a strong link between individual and agency performance information. This suggests a weak alignment between individual incentives and organizational goals. Senior management was described as the main user of performance information, followed by line managers, while elected officials and the media were perceived to be the least likely to use performance information. The primary purpose of performance information, identified by 90 percent of respondents, was compliance with government requirements. Other uses included improving the design and quality of services (73 percent), and planning and budget allocation (71 percent). Performance information were used for policy development and advice for less than 50 percent of respondents.

²⁸ Federal Expenditure Budget Portal: <http://www.apartados.hacienda.gob.mx/presupuesto/temas/ppef/2015/index.html>

²⁹“Indice de Desempeño de los Programas Públicos Federales” INDEP, 2014; GESOC, 2014.

Most respondents reported that evaluation results had been used to achieve organizational or program improvements. Encouraging workers to focus on goals, either individual or organizational, was the top response cited by almost 70 percent of respondents, followed by strengthening worker motivation. Respondents also reported better manager accountability (61 percent), improvements in service quality (62 percent), improvements in decisions (61 percent), and changes in how budgets were allocated within the agency (57 percent).

Fewer than 45 percent of respondents cited reducing operational costs as a positive impact of performance evaluations, which were also described as having little effect on the agency's relationship with elected officials. Fewer than 5 percent of agencies surveyed reported negative effects from performance evaluations, and 70 percent of respondents believed that management and leadership significantly affected the quality and usefulness of performance information.

Source: Hawke, 2012

Narrow Scope of Evaluations

56. **The Mexican government has focused its evaluation efforts almost exclusively on federal programs, and it rarely reviews either national or sector-specific policies.** Although programs are the proper focus of the evaluation system, failing to go beyond programs limits its impact on overall public expenditure efficiency. This is a fundamental weakness in the policy planning system, as sectoral performance is not a central consideration in either policy design or budget allocation. It is not possible to properly assess budget decisions without understanding the impact of sector strategies, and also heightens the risk of redundancies in terms of strategic objectives, target beneficiaries, management efforts, and resource allocation. Some progress has been made in this area in recent years; in 2015 CONEVAL published an evaluation of social development policy (*Informe de Evaluación de la Política de Desarrollo Social en México 2014*). The SHCP is also aware of this issue, which is a priority in the PGCM. Moreover, under the National Democratic Planning System (*Sistema Nacional de Planeación Democrática*, SNPD) the government has established mechanisms for monitoring PND programs that are designed to strengthen the assessment of public policies. However, these efforts are modest and incomplete, and they cannot be regarded as clear evidence of an increased focus on policy evaluation.

57. **One effect of the dissociation between the evaluation and planning and budgeting systems is evident in the design of the MIR.** Since the introduction of the MIR most programs have tended to adapt their objectives to fit the matrices, the sector development plans and the PND rather than altering the design of their programs to effectively promote sectoral and national objectives. As a result, the alignment of federal programs with PND through the MIR has largely become a formality.

58. **The preparation of the PND and sector strategies is not integrated with the budget process.** The lack of alignment between the PND and the budget results from the inadequate implementation of the multiannual budget and issues with the definition of programs in the federal expenditure budget. SHCP labels some types of expenditures as “programs” even if they do not represent a coherent set of actions designed to achieve specific objectives. For example, *Ramo 23* allows the executive branch to unilaterally modify the approved budget of any agency or entity in the APF. *Ramo 23* is linked to 12 separate funds that have different social objectives. However, several funds address the same objective, and in many cases a specific fund within the account is earmarked for exactly that purpose. This overlap between objectives is indicative of poor planning, and is best illustrated by the Regional Fund (*Fondo Regional*), which is described in Box 4.4.

59. **Along with national and sector policies, evaluations also tend to omit administrative functions such as procurement and human resources management.** Some of these areas were originally covered by the PMG but have become less prominent in recent years. Currently, there is no comprehensive

assessment of administrative performance. The MEGI is designed to address this challenge, but it is only a starting point, and implementing it will take time.

Box 4.4: Dissociation Between Planning and Budgeting in the Regional Fund

The Regional Fund (Fondo Regional) was created in 2007 to invest in projects and programs designed to reduce poverty and inequality in the ten states with the lowest Human Development Index (HDI) scores. Its purpose is to improve the “physical capital and productive capacity” of these states and promote a more “equitable regional development through public infrastructure and equipment”.

Regional Fund resources are invested in three areas: road infrastructure, health infrastructure and education infrastructure. However, over the past few years agencies such as the International Development Bank and the Center of Economic Research and Teaching (Centro de Investigación y Docencia Económicas, CIDE) have attempted to analyze the social impact of the Regional Fund. These studies found several flaws that prevent the fund from achieving its core objectives.

First, the Regional Fund only targets two areas—health and education—that contribute directly to regional HDI scores. Other priorities such as water and sanitation, housing quality and nutrition are outside its scope. The narrow range of Regional Fund interventions prevents a more holistic, multidimensional approach to improving HDI scores. Moreover, the distribution of resources within the fund suggests that it systematically over invests in roads projects, which have little direct impact on HDI scores, at the expense of health and education, which are more closely aligned with its policy goals. Finally, according to the SAI’s Annual Reports resources from the Regional Fund have been invested in areas far beyond its original scope, many of which contribute only tangentially to its primary objectives. Some investments have involved policy areas with no clear or direct link to HDI scores, such as governmental and tourism projects.

Source: Annual Reports of the Federal Supreme Audit Office 2010, 2011 and 2012.

Irregular Quality and Relevance of Evaluations

60. **The SED has made major strides in improving the technical soundness of evaluations.** These include the implementation of good practice approaches for improving evaluation quality, such as ensuring the active participation of program implementers in the design of results matrices and performance evaluations. CONEVAL and INEE have led these efforts in the social sectors. However, several issues continue to diminish the quality and relevance of evaluations.

61. **The current process for selecting which programs to evaluate and what methodologies to use does not lead to optimal results.** The PAE is not designed through a transparent and participatory process, which negatively affects the technical rigor and usefulness of evaluations.³⁰ Although line ministries and agencies can choose to conduct complimentary evaluations, they do not participate in the preparation of the PAE. Moreover, each agency has a different perspective on how to assess performance. CONEVAL has developed methodologies to assess social programs, which SHCP and SFP have attempted to adapt to programs in other areas with limited success. For example, the methodology of “consistency and results” cannot be effectively applied to judicial programs because of the difficulty of assessing their performance in terms of the number of beneficiaries or their satisfaction with the program. Another example is the obligation of foreign affairs programs to generate quantitative performance data, for which they are inherently ill-suited. These programs were put in a precarious situation when performance evaluations used the number of international treaties negotiated as a key output metric, when it is in fact an exogenous variable over which the programs had no control.

³⁰ In the survey of sector budget units roughly 40 percent of respondents agree with the statement that the “establishment of the PAE is done taken into consideration their evaluation challenges and needs.”

62. **The SED too often attempts to glean specific performance information from every governmental action and strategy, whereas evaluation should be viewed as a selective and strategic exercise that cannot necessarily be applied to all public programs.** SHCP is developing a performance information registry targeting specific programs for which an MIR is not appropriate. However, none of the current evaluation methodologies include variables for program cost, making it difficult to compare governmental efficiency among programs.

63. **Other issues negatively impact the value of evaluations.** First, some evaluations are conducted solely to fulfill a legal requirement. The current system promotes compliance with the requests of the evaluator rather than the objective of the evaluation, and it confuses the core principles of evaluation and auditing. Second, every year some evaluations fail to meet minimum quality requirements due to data limitations, especially those that rely on data derived from administrative records. Third, the evaluation system does little to control the quality of evaluators, and the government has not developed adequate evaluation training programs either for public officials or private contractors (Box 4.5). Fourth, evaluation results typically arrive too late to inform the budgeting process.

Box 4.5: Ensuring Qualified Evaluators

Measures to build the capacity of evaluators are vital to ensure efficient performance assessments. Government initiatives in Canada, Australia and Chile can offer useful insights into potential mechanisms for improving the quality of evaluators.

Canada. While the Canadian government has not developed a formal training program for evaluators, the Treasury Board of Canada Secretariat has developed a robust legal framework to ensure that all evaluators employed by public entities comply with certain minimum qualification requirements.

Australia. The Australian government does not provide formal training for evaluators; however, the Department of Finance offers courses for public officials to improve understanding of their “roles and responsibilities under the Commonwealth Resource Management Framework.”^{/a} Training topics include commonwealth resource management, risk management, fraud awareness, procurement and central budget management system. These trainings not only improve the institutional capacity of public officials, but generate incentives for private evaluators to improve their evaluation skills. The Australian National University and other institutions provide complementary trainings in core areas such as strategic policy development and analysis, as well as program implementation and regulation.^{/b}

Chile. In Chile the Ministry of Social Development offers trainings for both public officials and private contractors. Topics include integrated project portfolios, project development and social evaluations.^{/c}

^{/a} Training materials produced by the Australian Ministry of Finance. See <http://www.finance.gov.au/resource-management/training/>

^{/b} Mackay (2011), p. 23.

^{/c} Chilean Ministry of Social Development on Training on Public Investment Project’s Preparation and Evaluation. See <http://sni.ministeriodesarrollosocial.gob.cl/capacitacion/>

Incomplete Public Financial Management framework

64. **The implementation of the SED within a new regulatory framework has contributed to the gradual adoption of a more complete PFM.** The new legal framework includes (a) the 2007 Fiscal Reform, which outlines the SED’s structure; (b) the 2008 Constitutional Reform on Expenditures, which requires both national and subnational government agencies to implement results-based budgeting, performance evaluations and multiyear budgeting for investment projects; and (c) the Enforcement and

Accountability Law (*Ley de Fiscalización y Rendición de Cuentas de la Federación*), which strengthens oversight over the public accounts (*cuenta pública*) and mandates newly defined performance audits.

65. **Despite these advances three PFM instruments have yet to be fully adopted:** (a) budget programmatic classifiers, (b) a medium-term budget framework, and (c) accounting harmonization. Incomplete implementation of these reforms jeopardizes the effectiveness of the SED and limits the more robust use of performance information and evaluation findings by policymakers.

66. **Mexico has made important strides in strengthening the budget process, from planning through execution to evaluation.** The existing legal framework was bolstered by the adoption of policy reforms in accordance with international standards, including the implementation of economic, functional and programmatic budget classifications. However, the program classification system must be revised provide a systemic perspective on the budget based on a clear results framework. Accurately defining programs in the federal expenditure budget is a significant challenge, as the term “program” is often too loosely defined, and many activities that should not be classified as programs are included in the budget as such. The SHCP labels some expenditures as programs even if they do not consist of a coherent set of actions that contribute to specific and measurable outcomes.

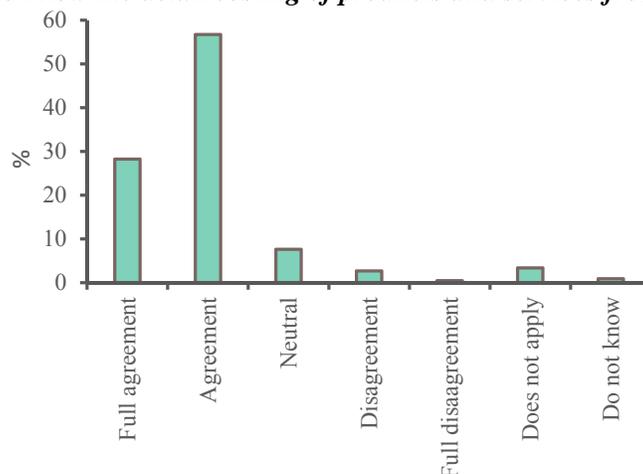
67. **Mexico has an MTBF that projects economic and public finance variables over a 5-year time horizon.** Medium-term budget objectives in an MTBF generally entail less commitment than a pure rule incorporating binding targets, and, as described in Chapter 2, significant deviations are common. In results-based management the importance of the MTBF stems from its monitoring potential, as it provides benchmarks against which budgetary developments can be assessed over time. The high level of deviation from projections in Mexico prevents the government from accessing this valuable information.

68. **The Ministry of Finance has similarly made progress in harmonizing the public accounts and federal and subnational governments accounting practices.** Results-based management requires mechanisms for accounting, reporting and consolidating information. The Budget and Fiscal Responsibility Act (*Ley General de Contabilidad Gubernamental*, LGCG), approved in December 2008, establishes the rules for government accounting with a view of harmonizing financial information between all levels of government and decentralized government institutions. Other relevant reforms and manuals include the General Accounts Plan (*Plan General de Cuentas*) approved by the SHCP in September 2010, the General Government Accounting Manual (*Manual General de Contabilidad Gubernamental*) approved in November 2010, the Government Accounting Manual for the Executive Branch (*Manual de Contabilidad Gubernamental para el Poder Ejecutivo*), and reforms to implement the single treasury account. Despite these advances, accounting harmonization remains incomplete and has suffered from over optimistic deadlines and milestones.³¹ Full implementation of the reforms will improve public sector performance through a range of mechanisms, including a stronger focus on outputs and outcomes, the greater flexibility of managers, as well as a better understanding of the full cost of government operations, products, and services offered through public programs.³² Specifically, two key features remain pending: (i) full real time integration of the accounting and budget cycles and systems, and (ii) comprehensive adherence to international standards and parties such as IPSAS. A majority of budget units interviewed under this study expressed that it would be useful to have detailed costing information for the products and services in their programs (Figure 4.9).

³¹ Mexico has advanced in implementing a *modified accrual accounting* system. This is understood as selective implementation of accrual accounting to certain domains and not others, such as revenues or depreciation. Based on the international experience, in the medium term Mexico would benefit from consolidating accrual accounting, which requires a more solid link between the budget, procurement and asset management systems.

³² Cangiano and others, 2013

Figure 4.9: Program Costing: What is Your Level of Agreement?
“It is useful to know the detail costing of products and services from programs.”



Source: World Bank survey.

69. **Full implementation of these reforms would establish the foundations for an efficient performance-based budgeting system in Mexico.** Moreover, the adoption of a comprehensive financial management information system would allow the government to produce real-time reports, which would in turn strengthen budget oversight, accountability and transparency. The SHCP approved the conceptual model for the Financial Management Information System (*Sistema Integral de Administración Financiera Federal*, SIAFF)³³ in 2009 and implementation began in 2012. In addition to providing a common framework and instruments for integrating core PFM functions in the SHCP, SIAFF helps simplify and harmonize activities across the federal government, with an emphasis on administrative functions. However, this process has not yet been finalized and SIAFF faces several constraints, including (i) lack of a long-term strategy for PFM tools, (ii) weak integration with other public expenditure information systems,³⁴ (iii) issues with the timing for compiling accounting information,³⁵ and (iv) existence of parallel PFM information systems.³⁶

CONCLUSIONS AND RECOMMENDATIONS

Improving the Institutional Setting

70. **Strengthening the institutional framework for producing and evaluating performance information will be an important step in transforming the SED into a fully functional results-based management system.** The current distribution of roles assigned by the SED to different institutions has proven to be less than optimal. A more efficient allocation of responsibilities would help eliminate redundant functions, address gaps in the evaluation framework, properly distinguish evaluation from

³³ SIDAFF is the conceptual model for the IFMIS, which has not been fully implemented. SIDAFF is also the name used for the treasury system. The fully functioning accounting and budgeting system is called the *Sistema de Contabilidad y Presupuesto*.

³⁴ Linkages are still limited between other public expenditure information systems such as COMPRANET, the *Sistema de Contabilidad Gubernamental* (SCG), the *Sistema de Contabilidad y Presupuesto* (SICOP) and the *Módulo de Adecuaciones Presupuestales* (MAP).

³⁵ Although SICOP is a transactional system, it only registers budgetary changes. The compilation of accounting is executed ex post in SCG, entailing significant delays.

³⁶ Although all central government institutions are required to register financial transactions in SICOP, many still use their old management information systems, which has generated multiple, overlapping information sources.

auditing, and leverage the skills and competencies of each institution to maximize the effectiveness of the system as a whole.

71. **Some of the SED's functions should be incorporated into the SHCP.** As both the main producer and consumer of performance information the SHCP should lead the SED. The SHCP should spearhead the preparation of the government's evaluation priorities and set the agenda, ideally with input from the Office of the President, CONEVAL, and the line ministries.³⁷ The SHCP should be in charge of managing and monitoring the MSASM, compiling the evaluations, screening the quality of the recommendations, seeking sectoral guidance, and following up on recommendations with program teams (either annually or biannually) to ensure effective action and record results.

72. **With primary responsibility for budget preparation the SHCP is the SED's key stakeholder.** The SHCP should continue to prepare results-based matrices, as this arrangement has proven successful to date, and there are economies of scale in the budgeting and programming processes. The SHCP also has the most comprehensive view over the budget and the authority to change budget allocations based on program and policy evaluations and spending reviews.

73. **The SHCP should restart or accelerate progress on critical areas of the SED that have been implemented slowly, partially or not at all.** These include monitoring projects and programs (in addition to evaluation) and establishing a functioning system to assess the performance of public agencies and staff. The SHCP should also develop a mechanism to assess the quality of public services and products. Some of these competencies, such as assessing institutional performance, are currently the responsibility of the SFP (as was originally envisioned in the PMG strategy). Further advancements in these areas could either be pursued in partnership with SFP, or these responsibilities could be reassigned to the SHCP, specifically in the UED. The latter would likely be most effective, but it would require not only revising the current roles in the SED, but also the strengthening the capacity of the UED to prepare it to fulfill an expanded mandate. Under the current legal framework these new roles would need to be negotiated between SHCP and SFP through an updated SED agreement.³⁸

74. **The SHCP should put more emphasis on implementing value-for-money (VFM) evaluations focused on improving the relevance, efficiency and effectiveness of public programs.** Some sectors such as education, health and transportation have already applied VFM-type methodologies, including cost-effectiveness analysis, cost-benefit analysis, and basic efficiency resource analysis. The SHCP should take stock of these experiences and formalize the list of methodologies to be included under the VFM as part of the evaluation toolkit and agenda. VFM evaluations could be initially applied to the most prominent programs and would serve as a basis for spending reviews.

Box 4.6: Value-for-Money Evaluations in Canada

Evaluations must assess not only the relevance and results of programs, but the resources employed in executing them. Evaluations should determine how resources were used to produce outputs and outcomes, whether the results generated justified the resources used, and whether there are alternative uses that could yield similar results with fewer resources, or better results with the same resources.

Federal evaluations in Canada have taken resource utilization into account since the late 1970s. In 2009 the Treasury Board redefined the purpose of evaluation to provide citizens, members of parliament, ministers, deputy heads, program managers and central agencies with an evidence-based, neutral assessment of value

³⁷ Also, following the good practice of countries like Chile, SHCP could share the draft evaluation agenda with Congress for feedback. By making its members aware of forthcoming evaluations, this practice may serve to promote future use of evaluations by Congress, and it may also lead to the identification of additional demands for evaluation.

³⁸ See "Acuerdo por el que se establecen las disposiciones generales del Sistema de Evaluación del Desempeño," 2008. http://www.shcp.gob.mx/EGRESOS/PEF/sed/acuerdo_sed.pdf

for money in federal programs and policies. Canada's evaluation system lays out five core issues that must be addressed in all federal evaluations: (1) the continued need for the program; (2) its alignment with government priorities; (3) its alignment with federal roles and responsibilities; (4) its achievement of expected outcomes; and (5) its demonstrated efficiency and economy.

Core issues 1-3 relate to program's relevance, while 4 and 5 measure performance. The efficiency dimension of core issue 5 includes both allocative efficiency and operational efficiency. The former is concerned with whether the resources consumed in the achievement of outcomes were reasonable given the program's context and the available alternatives. The latter focuses on optimizing the use of resource by examining how inputs are being converted into outputs that support the achievement of intended outcomes. The second dimension, economy, reflects the extent to which resource use has been minimized in the implementation and delivery of programs by attempting to approximate the minimum amount of resources needed to achieve expected outcomes.

Evaluators are encouraged to solicit input from evaluation users and other stakeholders in order to determine how the concepts of "efficiency" and "economy" should be defined in the evaluation of a specific program. On this process has been completed, evaluators select one or more analytical approaches for assessing these dimensions of public expenditure effectiveness. Finally, it should be noted that the value-for-money approach is not an auditing process and thus does not require evaluators to inquire about the design, functions, integrity and quality of risk management, control systems and governance.

Source: Treasury Board of Canada Secretariat, 2013. <http://www.tbs-sct.gc.ca/cee/pubs/ci5-qi5/ci5-qi5-eng.pdf>

75. describes Canada's experience with VFM evaluations.

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Source: Treasury Board of Canada Secretariat, 2013. <http://www.tbs-sct.gc.ca/cee/pubs/ci5-qb5/ci5-qb5-eng.pdf>

76. **CONEVAL, with its high degree of technical expertise, should focus on setting evaluation standards and establishing guidelines, not merely for social programs but for the entire SED.** CONEVAL should serve as the “regulator” of the evaluation market. Its staff have the necessary skills and experience to extend CONEVAL’s coverage to all sectors in collaboration with the sector authorities. Nevertheless, this expanded set of responsibilities will pose a challenge for the institution. CONEVAL should develop an inventory of public programs as well as specific tools to carry out all types of evaluations. This would provide the SED with an independent body that guides the evaluations and promotes high-quality standards and international good practices. CONEVAL could even conduct *ad hoc* independent reviews of the quality of evaluations, performance information or evaluators. An expanded role for CONEVAL would need to be negotiated with the SHCP and SFP and codified in an updated SED agreement.³⁹ This process could ultimately require changing the law regulating the SED. The legal reforms to CONEVAL currently being discussed by the legislature presents an opportunity to address some of these issues.

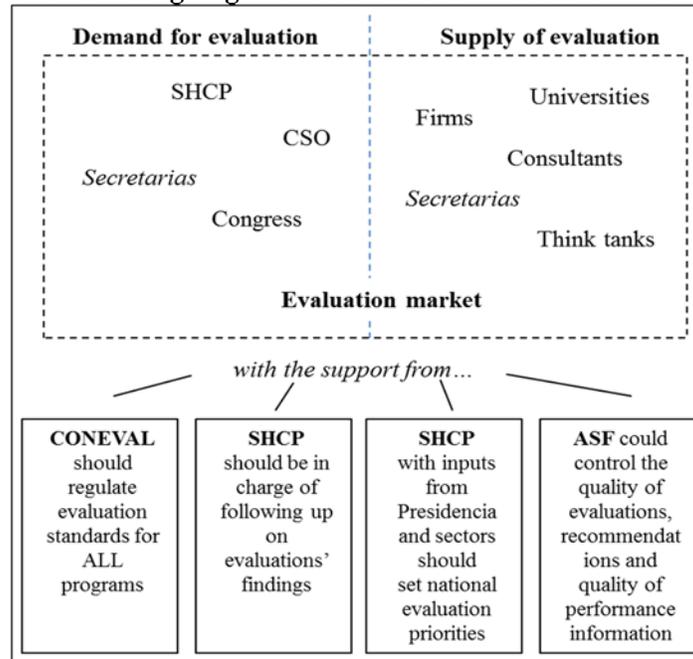
77. **The SFP should refocus on its traditional auditing and internal control functions, which must be strictly separated from evaluation.** The SFP has strong auditing capacity and vast experience with internal controls in the APF. However, the SFP’s traditional compliance functions have become confused with the evaluation functions accorded to it under the SED. This has reduced the effectiveness of evaluations by encouraging agencies to regard evaluation instruments as tools for enforcing adherence to bureaucratic rules, rather than assessing progress toward policy objectives. Reaffirming SFP’s traditional role by shifting its evaluation functions to SHCP would enable it to focus on its core competency.

78. **The public sector management reform agenda, which included enhancements in staff and institutional performance in addition to the quality of public services, is critical for a well-functioning results-based management system like the SED.** This effort should be revived and, ideally, placed under the responsibility of the SHCP, though doing so may require some legal revisions and changes in internal directives. Initial steps could include developing a transition plan and adapting the current SED contract to clarify new roles and responsibilities.⁴⁰

³⁹ *Ibid.*

⁴⁰ *Ibid.*

Figure 4.10: Realigning Mexico’s National Evaluation Framework



Source: World Bank staff

79. **An external actor, such as the ASF, should support CONEVAL in ensuring the quality of evaluations.** A revised SED should promote adherence to quality controls. Given its experience conducting ex-post expenditure and program assessments, and more recently performance audits, the ASF would be an ideal candidate to review and confirm adherence to the evaluation standards set by CONEVAL. The ASF may need additional resources to assume this role while continuing to implement its own evaluations and performance audits. CONEVAL could perform this function itself, but due to its proposed role as regulator it would not be the best choice. INEGI could also promote evaluation quality by reviewing the indicators in the MIR, developing methodological guidelines for creating strong indicators linked to statistical data, or providing inventories of statistical techniques and other evaluation tools. Finally, independent organizations outside the government could—following CONEVAL’s standards—provide additional independent assessments of specific evaluations and evaluation tools.

Increasing the Use of Performance Information

80. **Evaluations are only effective if the information they produce is used to enhance policies and improve programs.** Mexico has invested considerable effort in designing and implementing a results-based management system. However, it does not effectively utilize the information this system generates.

81. **The authorities could greatly increase the use of budget information by: (i) adjusting the budget calendar, (ii) better integrating performance information into the budget cycle and (iii) communicating expenditure ceilings earlier in the budget formulation process.** The definition of objectives and targets for the fiscal year should be aligned with the budgeting process. These changes would give agencies more time to gather and report information, which would then be considered during budget discussions, and modifications could be made to results-based matrices to reflect changes in the budget. Budget ceilings should be based not only on spending priorities, but also on the findings of performance evaluations. Currently, the SdE establishes the budget for each government entity, and there is little participation by the sector budgeting and planning offices in the line ministries (Department of Planning, and Organization and Budgeting, *Dirección General de Programación, Organización y*

Presupuesto, or DGPOPs) and even within the SHCP (Department of Planning and Budgeting, *Dirección General de Programación y Presupuesto*, or DGPYPs). The process by which DGPYG, UED and the Budget Office interact with sector agencies should be clarified to enhance participation and ensure that performance information is used and that the process is well documented. Finally, expenditure ceilings should be communicated earlier in the budget formulation process. Budget estimates are critical for planning programs, defining targets and results indicators, and establishing realistic commitments by the AFP to Congress and the public. Providing this information earlier in the budget cycle would allow agencies to better plan their resources allocations and adopt strategies for achieving specific targets and commitments.

82. **Financial data, the status of ongoing programs, budget information and performance evaluation results should be integrated into a single tool.** A lack of consolidated information hinders the harmonization of the budget process and the preparation of results-based matrices. One option would be to aggregate fields to MAP (*Módulo de Adecuaciones Presupuestarias*) and PIPP (*Sistema del Proceso Integral de Programación y Presupuesto*), which currently only report financial execution information. Considering that the SED requires inputs across the entire management cycle (from planning to execution to evaluation), IFMIS should be expanded to record and integrate planning, performance and budget information.

83. **Budgeting and planning offices in line ministries should play a greater role in defining objectives and targets and preparing the annual evaluation program.** The role of these offices in performance monitoring and evaluation is currently limited to compiling and submitting results-based matrices, which are the responsibility of program directors. Yet DGPOPs and DGPYPs play a pivotal role in determining and executing public expenditures and should be involved in defining program goals. This would require building the capacity of DGPYP and DGPOP officers as well as establishing formal requirements for this information to be provided during the formulation and execution of the budget.

84. **Incentives should be put in place to promote realistic program objectives and recognize excellence in program management.** The authorities should promote a culture in which candid assessments are rewarded. Such an incentive system could be link to the MSASM to hold agencies accountable for the implementation of recommendations. Results agreements and operational evaluations would help to reorient performance evaluation toward improving program management. Evaluations should determine both a program's contribution to specific objectives and its internal administrative efficiency. Individual and team awards could recognize both innovation and adherence to best practices.

Facilitating the Evaluation of Public Policies

85. **Performance evaluation should examine the impact of sector policies as well as individual programs.** The SED should expand its focus and extend the current effort, while still modest and incomplete, to the analysis of public policies and expenditures across sectors. Meta-evaluations of sector policies and spending reviews could be introduced to evaluate the effectiveness of the government's general strategic orientation. Spending reviews can identify ways to increase the efficiency of government expenditures, which would be especially beneficial to Mexico as it strives to advance its policy goals in a context of tighter fiscal constraints. This could involve consolidating and realigning similar programs or using scorecards to measure progress against strategic goals. Developing a standardized classification of goods and services as well as beneficiary types could help to aggregate information on government outputs and inform overall strategic indicators during the planning, programming and budgeting processes. This would require harmonizing the various classification systems that have already been developed by SEDESOL and consolidating them into a single national registry of beneficiaries (Box 4.7).

Box 4.7: A Single Registry of Beneficiaries

Mexico currently operates several registries of social program beneficiaries. Under the National Crusade against Hunger (*Cruzada Nacional contra el Hambre*) a number of participant institutions have developed their own registries. SEDESOL has also published the beneficiaries register for the programs under its purview (*Padrón de Beneficiarios*) and the SFP has developed an online platform to integrate information on beneficiaries of public program (*Sistema Integral de Información de Padrones de Programas Gubernamentales*). As a result of these efforts, a great deal of beneficiary information is disaggregated by state and municipality and can be accessed online. However, each database is independent, and there is no national registry of beneficiaries.

Chile provides a good example of a successful national registry of beneficiaries in the form of the Integrated System of Social Information operated by the Chilean Ministry of Social Development, which encompasses information on the beneficiaries of multiple social programs focusing on areas as diverse as cash transfers, support to children and families, and access to potable water. The Chilean registry also includes information on people affected by natural disasters.

Source: Chilean Ministry of Social Development on the Integrated System of Social Information; <http://siis.ministeriodesarrollosocial.gob.cl/>

86. **Additionally, the PbR-SED should refocus on its original design as a comprehensive results-based management system that extends beyond program evaluation to encompass assessments of institutions and their staff.** The PMG envisioned the PbR-SED as a formal system that monitors and evaluates the performance of civil servants, the quality of governmental institutions and the impact of public services. Some of these functions have been subsumed by the SFP, but all of them should be centralized under the SHCP and placed specifically within the purview of the UED.

Enhancing the Quality and Relevance of Evaluations

87. **An efficient evaluation system requires technically sound and relevant evaluations.** The Mexican government has developed a sophisticated evaluation system and has encouraged the growth of a reasonably broad market of professional evaluators. However, the quality of evaluations could be further improved.

88. **Sector agencies should increase their participation in the evaluation cycle.** Line ministries should be involved to a greater extent in defining the evaluation agenda and the annual evaluation program. This includes input regarding what programs should be evaluated and the type of evaluation to be conducted, as well as discussions with the SHCP on the identified areas for improvement. Sectoral agencies should, moreover, provide feedback to evaluators both during the evaluation process and after the evaluation is completed. Finally, sector agencies should have more freedom to evaluate or contract out evaluations, as long as they adhere to the standards set by CONEVAL and the SHCP. Each agency should have an evaluation coordinator responsible for developing multi-annual evaluation plans.

89. **CONEVAL should establish protocols for formulating and submitting recommendations to the MSASM.** The United Nations Evaluation Group's *Good Practice Guidelines for Follow up to Evaluations* (2010), and the OECD's quality standards for development evaluations could serve as a guide.

90. **A formal mechanism should be established to ensure the quality of private contractors hired to conduct evaluations.** CONEVAL and ASF should develop more rigorous terms of reference to guarantee that only the best contractors are hired to conduct evaluations. The guide developed by the World

Bank and CLAD could serve as a starting point.⁴¹ Completed evaluations should be reviewed to ensure that they are in accordance with technical standards.⁴²

Improving the Foundations for the Use of Performance Information in the Budget Cycle

91. **The full-scale implementation of a modern public financial management framework would further strengthen the effectiveness of the performance evaluation system.** The government has made significant progress in adopting international best practices with respect to budget classifiers, a medium-term expenditure framework and accounting processes; however, several key public financial management instruments have not yet been fully developed.

92. **Programmatic classifiers in the budget should be consistent and universal.** The budget currently includes a programmatic classification, but the definition of what constitutes a program varies substantially by agency. The SHCP should work with line agencies to establish sector budgets under a more standard definition. This will substantially reduce the number of programs in the budget, clarify their presentation, and enable more effective monitoring and evaluation of results.

93. **A medium-term budget framework could be adopted.** Mexico has a medium-term expenditure framework in place that enables a top-down aggregate resource allocation for each spending agency. A more participatory, bottom-up approach to expenditure allocation could help improve prioritization and strategic planning, as well as facilitating the monitoring and evaluation of programs.

94. **Accounting harmonization should be completed.** Specifically, two key aspects are pending for implementation: (i) full real time integration of the accounting and budget cycles and systems, and (ii) further adherence to international standards and practices such as IPSAS. Realistic goals and strong political leadership will be needed to ensure the full implementation of accounting and reporting reforms. This will ensure better quality of information and allow international comparisons. Furthermore, integration of the financial management system would provide the SED with real time performance and financial information. The full adoption of international accounting standards at the federal and subnational levels would pave the way for more sophisticated program costing techniques, which would facilitate the development of estimated unit costs for public products and services. This in turn would allow for more refined program and policy evaluation that could include national (and international) cost benchmarks.

⁴¹ The guide can be accessed at: <http://old.clad.org/documentos/otros-documentos/guia-para-la-elaboracion-de-terminos-de-referencia-orientados-a-la-contratacion-de-servicios-de-consultoria-para-el-monitoreo-y-evaluacion-de-programas-y-proyectos-gubernamentales>.

⁴² There are a number of interesting quality control systems and initiatives that could guide this. In South Africa the Management Performance Assessment Tool (MPAT) is worth revising. See www.thepresidency-dpme.gov.za/keyfocusareas/mpatSite/Pages/default.aspx. In New Zealand, the Controller and Auditor General has reviewed the quality of performance information (The Auditor-General's observations on the quality of performance reporting). The Government Accountability Office (GAO) in the US regularly reviews important initiatives like Managing for Results. See <http://www.gao.gov/products/GAO-15-579>. In Australia, the Australian National Audit Office also monitors the Government's results management initiatives. See http://www.anao.gov.au/uploads/documents/2004-05_audit_report_6.pdf.

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MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 5: Human Resource Management



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EXECUTIVE SUMMARY

Over the last five years the size of Mexico’s federal government wage bill has remained moderate relative to both GDP and total expenditures, and its growth has been fiscally sustainable. The wage bill, which covers personnel spending for the executive, judicial and legislative branches, as well as autonomous entities (but not transfers to the states), comprised just over 10 percent of total federal spending in 2014. Between 2009 and 2014 it increased by 2.6 percent per year in real terms, broadly in line with the real GDP growth rate. A more detailed analysis of expenditures within the executive branch, referred to in Mexico as the federal public administration (*Administración Pública Federal*, APF), reveals a similar trend.

While the total size of the federal wage bill appears appropriate to Mexico’s economic and institutional context, underlying issues involving the structure and remuneration of the public sector workforce constrain the ability of the APF to attract and retain qualified staff. Ensuring that the wage bill remains manageable and that workforce incentives are properly aligned with the needs of the APF will require a thorough review of compensation policy. As with other major public expenditure items the wage bill will need to be sustained in an increasingly difficult fiscal context, with declining revenues compounded by rising expenditure pressures in multiple sectors.

Main Messages

Mexico’s personnel expenditures at the federal level are significantly lower than those of other federal republics such as Brazil, as well as the global averages for both middle- and high-income countries. Mexico’s central government wage bill represents 2 percent of GDP and 10 percent of total expenditures. This is below both the middle-income country average of 7 percent and 24 percent and the high-income country average of 6 percent and 19 percent. Mexico also has one of the smallest public workforces in the OECD, and employment in the central government has declined in the last fifteen years.

A recent decrease in total budgeted permanent compensation in the APF has had two distinct impacts on the employment structure. First, civilian central institutions endured the brunt of the budget cuts, while deconcentrated and parastatal institutions experienced more modest reductions. Second, base pay now represents a smaller share of total pay in central government agencies than it does in deconcentrated and parastatal institutions. Base pay also represents a smaller share of compensation for those at the lower end of the pay scale relative to the top.

The modest growth of the wage bill masks an increase in the use of temporary personnel (*eventuales*). The number of temporary employees is rising throughout the APF, and expenditure overruns on temporary contracts are not uncommon. Between 2009 and 2014 total spending on temporary personnel rose by 25 percent. Increased demand for temporary staff is partly the result of tighter controls on the creation of permanent positions, as well as the assignment of new mandates and responsibilities to federal institutions.

Other types of employee benefits and incentive payments have also increased significantly. Benefits classified as “additional and special remuneration” grew by 23 percent between 2009 and 2014, driven by the expansion of seniority benefits and benefits subject to labor-union negotiations. Similarly, spending on incentive payments grew by 36 percent in real terms, with most of this increase going to administrative staff (*operativos*).

A deeper analysis into the equity of pay across the APF reveals large salary differentials between certain levels of the central pay scale (*tabulador*) and between the central, deconcentrated, and parastatal institutions that comprise the APF. Unionized administrative personnel at the top of their respective pay scales often come close to or exceed the remuneration of more senior liaison officer positions. This distortion can reduce incentives for public servants to accept positions of greater

responsibility. Conversely, middle management (*mando medio*) compensation levels offer much larger financial incentives to accept senior positions.

Administrative positions make up a very large share of both the APF workforce and the overall federal employment structure. At the federal level the vast majority of public servants are employed on union contracts in administrative (*operativo*) positions. In 2014, 75 percent of federal public servants (excluding fee-based *honorario* contracts) were employed on unionized (*base*) contracts.

The frequent use of temporary recruitment procedures in the Professional Career Service (*Servicio Profesional de Carrera, SPC*) undermines the establishment of an open, merit-based cadre of permanent senior-level civil servants. Roughly 2 percent of Mexico's 1.6 million federal public servants are part of the SPC. Just over half of these positions were awarded through competitive selection; the remainder were awarded through temporary appointments.

There are large disparities between the compensation of certain public positions and private sector salaries. An assessment of total compensation in the APF is subject to significant data limitations, but proxy indicators and data from the OECD suggest that senior management positions are compensated at levels that are similar to comparable positions in the Mexican private sector or in the public administrations of other countries. However, uncompetitive middle management salaries may be partially responsible for high numbers of separations from the SPC. Moreover, salaries for administrative staff are quite low, and the limited salary increases over the course of administrative careers offer few incentives for career progression.

Reconciling payroll information at the central level is a time-consuming, labor-intensive process. Information on how much each public servant is paid is dispersed across the payroll systems of various public agencies and institutions. Moreover, it is difficult to interpret the information without a detailed understanding of Mexico's compensation structure, and an analysis of individual compensation at different levels of aggregation is effectively impossible. This significantly complicates any attempt to analyze the federal payroll and identify distortions and inefficiencies.

Conclusions and Recommendations

A sustainable compensation policy must be based on clearly defined objectives that advance the interests of both the government and public employees within an appropriate resource envelope. Efforts to contain the growth of the wage bill should not exacerbate distortions by further incentivizing the use of temporary workers or widening disparities in the central pay scales. Asserting greater control over the temporary personnel budget would be an important first step in containing the growth of the wage bill. At the same time, marginally accelerating the attrition of administrative staff would enable the creation of new positions in the areas of greatest need. As most of the federal workforce is assigned to administrative roles, reintroducing the voluntary retirement program for administrative staff may create space to introduce new positions to fill identified skills gaps.

The establishment of a centralized payroll database would significantly improve the availability of information. A centralized payroll database would enable more frequent analyses of the federal workforce, enhance transparency, facilitate comparisons between budgeted and actual compensation, and provide the SHCP with more detailed and disaggregated information to inform its policies. In the short term the SHCP could request that spending agencies publish annual data on total permanent payments (*percepción ordinaria*) and extraordinary payments (*percepción extraordinaria*) via their respective transparency portals. Additionally, the SHCP could aggregate actual spending on permanent payments by different ministries and present a consolidated report comparing budget forecasts with actual compensation by position.

Career progression and professionalization are important medium-term issues. Policymakers should strive to professionalize the public service by further expanding and strengthening the SPC. Particular attention should be devoted to limiting the use of temporary exceptions in the SPC hiring process. Incentives for qualified employees to move from administrative to liaison officer positions should be strengthened. Finally, the government should continue to expand the coverage of the central pay scale and regularly review the competitiveness of public sector salaries to ensure a consistent approach to establishing and maintaining competitive public sector pay levels.

INTRODUCTION

1. **This chapter focuses on the executive branch of the federal government, known in Mexico as the federal public administration (*administración pública federal*, APF).** The analysis covers only a subset of public employees and excludes the majority of the public workforce, which is employed at the state and municipal levels. The decision to focus on the APF was based on discussions with the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*, SHCP), as well as resource constraints and data limitations on public employment across different levels of government. The relatively narrow scope of the chapter does not imply that the issues identified in the APF are more urgent or severe than those that may exist elsewhere in the public sector.

2. **The Mexican authorities are well aware of the importance of human resource management for achieving a more effective, responsive and efficient public sector.** A central pillar of the federal government's ongoing human resource management reforms was the creation of the Professional Career Service (*Servicio Profesional de Carrera*, SPC) in 2003. This was intended to establish a cadre of permanent senior-level civil servants to manage the administration of government agencies over the long term through equal-access and merit-based recruitment. In recent years the federal government has also introduced a number of reforms in workforce management. These include the introduction of an information technology (IT) system for registering civil servants and tracking vacancy rates, the use of an organizational culture and climate survey, and the alignment of human resource policies with institutional strategic objectives. Nevertheless, opportunities exist to further strengthen the professional career service, professionalize the workforce, and expand systems for monitoring and controlling costs.

3. **Mexico is facing a long-term structural increase in expenditure pressures, and the effective management of the public sector wage bill is critical to the overall efficiency of public spending.** Similar to other countries in Latin America and the Caribbean (LAC) and the OECD, Mexico's public wage bill represents a large share of its current expenditures. Following the 2008 financial crisis, many OECD countries implemented measures to reduce their wage bills and restore financial sustainability while maintaining adequate service delivery. In recent years Mexico has also introduced controls on the wage bill in order to contain expenditure growth.

4. **This chapter reviews the recent evolution of public spending on wages and salaries at the federal level.** Its objective is to determine the extent to which the government's efforts have succeeded in controlling wage bill expenditures by examining Mexico's central government wage bill in relation to GDP and GDP growth over time, as well as the spending patterns of comparable countries. The chapter also analyzes the effects of recent wage bill controls on the equity of pay both across the APF and within institutions that apply the central pay scale.

5. **The chapter also examines the workforce structure of the APF in relation to its ability to provide high quality service delivery and attract and retain qualified staff in the right positions.** Achieving the government's ambitious policy objectives will require a well-organized workforce of the appropriate size with the necessary skills. The retention of public servants in the SPC, an important subset of the federal workforce, is a particularly critical aspect of workforce quality.

Methodology

6. **To analyze the evolution of federal employment and compensation this chapter draws on multiple data sources.** These include the public accounts, the federal budget and the National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*, INEGI). International comparisons are drawn primarily from the International Labour Organization (ILO) and OECD databases. The authors interviewed representatives of the SHCP, the Ministry of Public Administration (*Secretaría de*

la Función Pública, SFP), the Ministries of Health and Education, the Mexican Institute of Social Security (*Instituto Mexicano del Seguro Social*, IMSS), and researchers from the Center for Economic Research and Teaching (*Centro de Investigación y Docencia Económicas*, CIDE) and the Center for Economic and Budget Research (*Centro de Investigación Económica y Presupuestaria*, CIEP).

7. **Obtaining a complete picture of wage bill expenditures required piecing together a number of datasets with different timeframes and classifications, as Mexico has no single comprehensive payroll database.** To facilitate international comparisons, the SHCP provided internal IMF Government Financial Statistics data based on the IMF definition of central government, which is roughly equivalent to Mexico's federal government.¹ These data were used to compare Mexico's federal government wage bill between 2009 and 2012 with that of Brazil.

8. **Data limitations prevented a comprehensive evaluation of compensation and employment figures over time, since certain years had to be excluded due to changes in classification or methodology.** Due to compatibility issues most wage bill data are from 2009 or later. The wage bill analysis is largely based on public accounts data from 2009 to 2014, and the employment and salary analysis is based on federal budget data from 2010 to 2014. It is not possible to compare budgeted personnel costs against actual expenditures by position. It should be noted that the analysis of the wage bill presented here does not include consultants, who are paid under the general services line of the budget.² Consequently, the wage bill figures likely underestimate the total cost of public sector compensation. Few government or external analyses exist on the overall compensation of public employees in Mexico. This is likely due to the complexity of the remuneration structure and legal framework governing public sector employees, as well as the difficulties involved in collecting reliable data.

9. **This chapter is divided into four sections.** The background section provides an overview of the structure and distribution of employment in Mexico's public sector in order to contextualize the analysis of the APF. The second section analyses wage bill expenditures and the recent effects of wage bill controls on the equity of pay across APF institutions, as well as the use of temporary employment. The third section examines the composition of the APF workforce, the size and scope of the SPC, and the adequacy and transparency of pay. The chapter concludes with a set of policy recommendations for the short, medium and long term.

BACKGROUND

10. **Assessing government employment and compensation dynamics in Mexico requires an understanding of the country's complex institutional and legal structure.** Mexico's public sector includes the federal government, 31 states and the Federal District, and 2,457 municipalities and autonomous constitutional entities.³ The federal government is divided into the executive, legislative and judicial branches.⁴ The APF includes only the executive branch and consists of both central and parastatal

¹ The IMF classifies the central government as one of three subsectors of the general government, the other two being state government and local government. The central government includes social security institutions but not state-owned enterprises. According to the IMF's Government Finance Statistics Manual, "[the central government] is generally composed of a central group of departments or ministries that make up a single institutional unit plus, in many countries, other units operating under the authority of the central government with a separate legal identity and enough autonomy to form additional government units." (p.13).

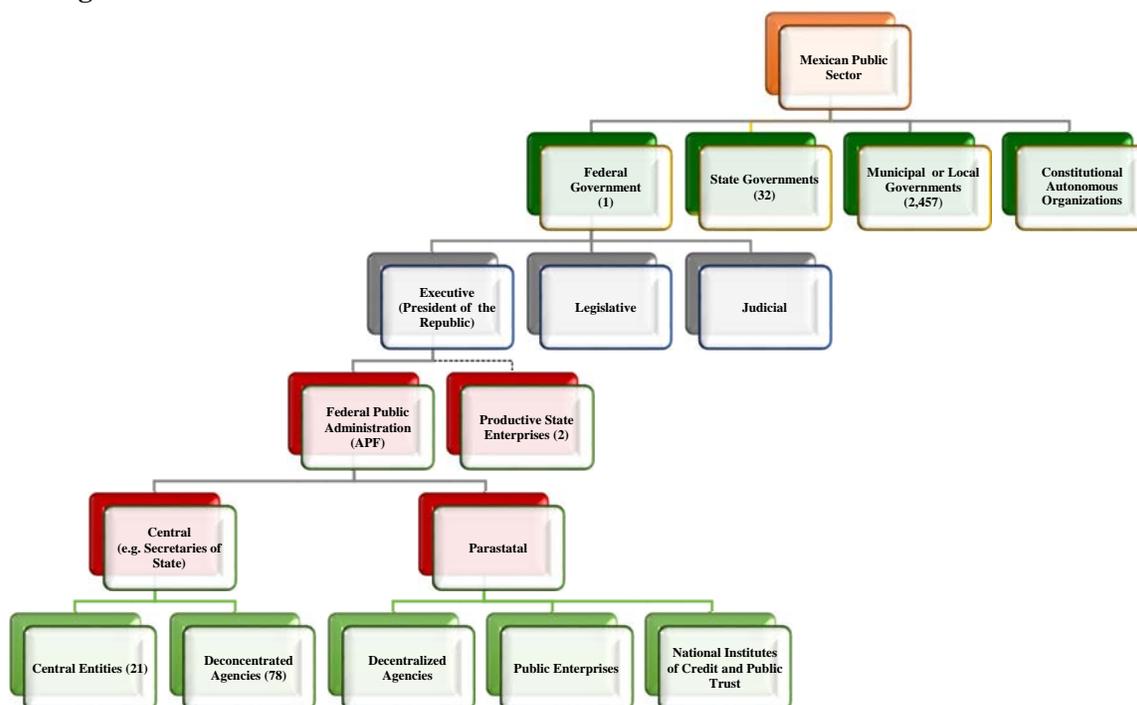
² This analysis excludes Chapter 3,300 "professional services, scientific, technical and other services," which mostly encompasses spending on consultancies and Chapter 3,900 ("other general services"), which may also include some portion of consultant services. Fee-based (*honorarios*) contracts are included in Chapter 1000 on personnel services.

³ Presentation by SFP, "Unidad de Política de Recursos Humanos de la Administración Pública Federal," March 2015.

⁴ Articles 49, 90, Constitution of the United States of Mexico, Diario Oficial de la Federación, February 5th, 1917.

institutions (Figure 5.1).⁵ The 99 central institutions include the Office of the President, the line ministries, various administrative departments and deconcentrated entities (*organos administrativos desconcentrados*). The parastatal sector encompasses 180 decentralized agencies, public enterprises, national credit institutions and public trusts, of which 171 are federal entities, 4 are under direct federal budgetary control and 5 are not considered part of any one sector (*no sectorizadas*). Recent energy sector reforms established a new group of institutions referred to as “Productive State Enterprises,” which include the national oil company (*Petróleos Mexicanos*, PEMEX) and the Federal Electricity Commission (*Comisión Federal de Electricidad*, CFE). Altogether, the APF comprises roughly 277 institutions, plus PEMEX and CFE. In 2014 about one-third of APF’s total compensation budget was allocated to central institutions, while parastatals accounted for the remaining two-thirds.⁶

Figure 5.1: The Structure of the Mexican Public Sector and the Federal Government



Source: SFP presentation with input from SHCP

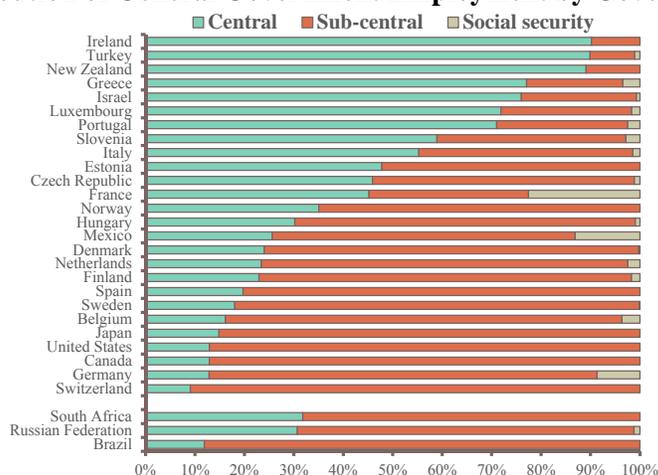
11. **By focusing on the federal government, and specifically the APF, the analysis excludes the majority of public sector workers, who are employed at the subnational level.** As in other federal republics, most of Mexico’s public sector workers are employed at the state and municipal levels. The central government accounts for roughly 25 percent of public employment, while the states and municipalities account for roughly 60 percent (Figure 5.2). The remaining 13 percent are employed by social security institutions. The state wage bill encompasses the majority of personnel spending, and wage bill dynamics at the state and municipal levels merit further investigation.⁷

⁵ Article 1 of the 1976 Organic Law of the Federal Public Administration establishes the two main sectors of the APF—central and parastatal—as mandated by Article 90 of the Constitution.

⁶ Presupuesto de Egresos de la Federación, Tomo VIII Analítico de Plazas y Remuneraciones, Administración Pública Federal, 2014.

⁷ A detailed investigation of state wage bill trends is beyond the scope of this analysis, however, such an investigation is warranted due to the large share of state wage bill expenditures and their relatively rapid growth rate. According to World Bank estimates, in 2013 the state wage bill accounted for 27.3 percent of the general government wage bill, or 54 percent when federal

Figure 5.2: Distribution of General Government Employment by Government Level, 2011



Source: ILO LABORSTA (database) from OECD, 2013. Government at a Glance 2013, OECD Publishing DOI: http://dx.doi.org/10.1787/gov_glance-2013-en.

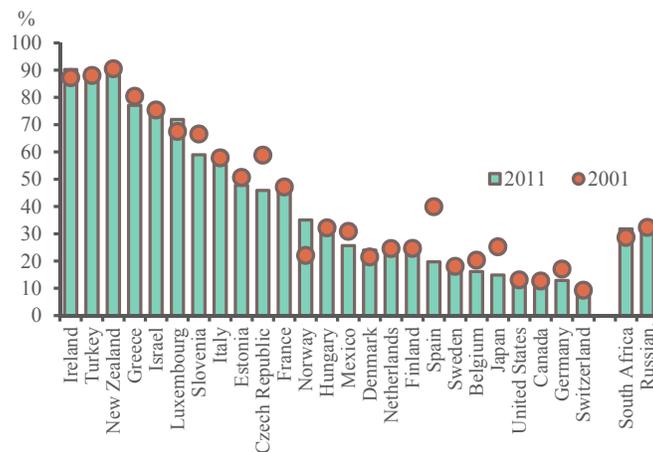
Note: Data for Japan, Mexico, Brazil and the Russian Federation are from 2009

12. **Mexico has one of the smallest public workforces in the OECD, and employment in the central government has been decreasing relative to the size of the national labor force.** General government employment accounted for 9.9 percent of the labor force in 2010, down from 12.4 percent in 2001.⁸ This rate is lower than that of Brazil and Argentina and far below the average for OECD countries. However, LAC countries tend to have lower levels of public sector employment due to their smaller revenue bases, and this can diminish the usefulness of comparisons with OECD countries. Employment in Mexico's central government has also decreased as a share of total public employment, falling from 31 percent in 2001 to 26 percent in 2009 (Figure 5.3). The relative decline in central government personnel likely reflects the increasing decentralization of public services.

transfers are included. Between 2009 and 2013 the state wage bill increased by 4.6 percent in real terms. See Mares, 2012 for further discussion on subnational human resource management dynamics.

⁸ ILOSTAT data. The ILO defines "general government" as all levels of government, including all ministries, agencies, departments and non-profit institutions that are controlled and/or financed by public authorities.

Figure 5.3: Percentage of Government Staff Employed at the Central Level, 2001 and 2011



Source: ILO LABORSTA (database) from OECD, 2013. Government at a Glance 2013. OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/gov_glance-2013-en.

Note: Data for Japan, Mexico and the Russian Federation are from 2009.

13. **In recent years the government has introduced a number of measures to contain personnel spending at the federal level.** These include reducing expenditures on salaries and wages, implementing two voluntary retirement programs, and restricting hiring. The 2015 budget also calls for a 10 percent reduction in expenditures on civil service salaries for middle and senior management and a 10 percent reduction in temporary and fee-based positions.⁹

THE FEDERAL WAGE BILL

Federal Wage Bill Expenditures¹⁰

14. **The size of Mexico's federal wage bill is moderate by the standards of comparable countries.** Mexico does not report wage bill expenditures to the IMF's Government Finance Statistics (GFS) database. However, GFS-compatible data provided by the SHCP enables a comparison between the evolution of Mexico's central government wage bill between 2009 and 2012 and that of Brazil, the only other federal republic in LAC for which data were available over the same period.

15. **Mexico's central government wage bill is low compared to Brazil's, both as a percentage of GDP and total expenditures.** In 2012¹¹ Mexico's central government wage bill accounted for 2 percent of GDP and 10 percent of total expenditures, while Brazil's wage bill accounted for 4 percent of GDP and 15 percent of total expenditures (Figure 5.4).¹² However, the analytical usefulness of international comparisons is limited due to the different roles and responsibilities of central and state agencies and other variations in the structure of the public administration.

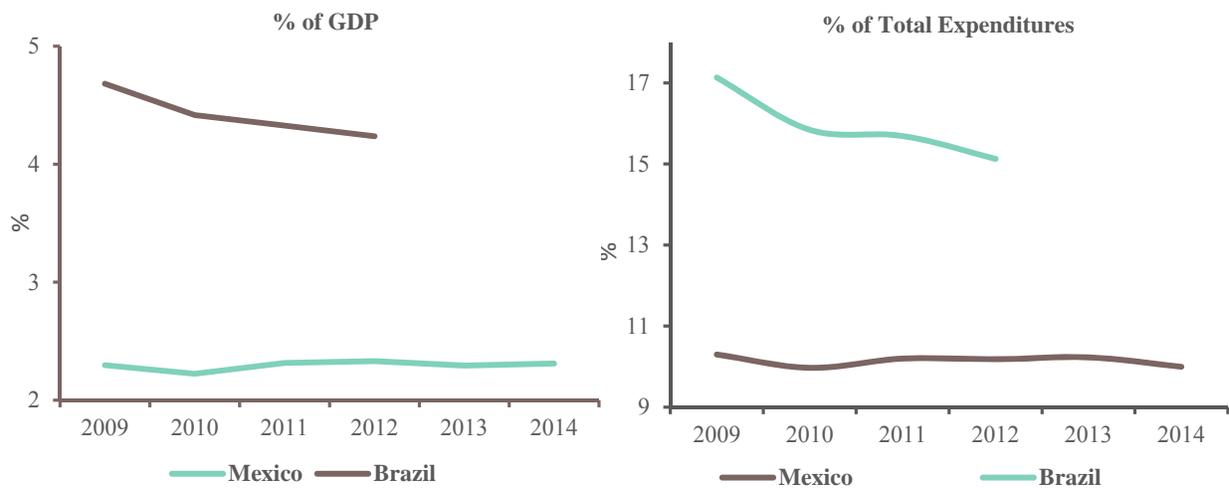
⁹ SHCP, 2015

¹⁰ This section examines trends in the growth of the wage bill as a percentage of GDP, revenues, and total federal government spending. To enable international comparisons, wage bill figures are presented for the federal government, which encompasses the APF, the judicial and legislative branches, and autonomous constitutional entities. This definition is based on INEGI's System of National Accounts (*Sistema de Cuentas Nacionales*) in accordance with Tomo II of Mexico's public accounts.

¹¹ The most recent GFS data available for Brazil is from 2012.

¹² These data were provided by SHCP. They differ from World Bank staff estimates based on the System of National Accounts' definition of central government.

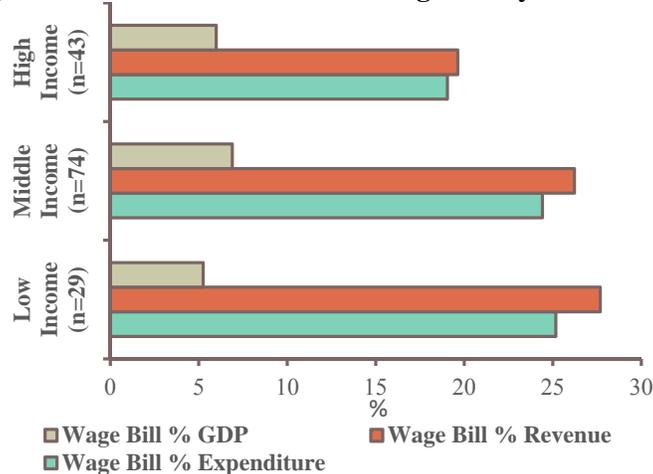
Figure 5.4: Central Government Wages and Salaries (in % of GDP and % of Total Expenditures)



Source: World Bank staff estimates based on internal SHCP GFS-compatible data for the central government

16. **Moreover, Mexico’s central government wage bill is significantly smaller than the average wage bill for both middle- and high-income countries.** Between 2000 and 2013 the central government wage bill for middle-income countries averaged 7 percent of GDP and 24 percent of total expenditures. Among high-income countries the average was slightly lower at 6 percent of GDP and 19 percent of expenditures (Figure 5.5). By comparison, Mexico’s central government wage bill represented just 2 percent of GDP and 10 percent of total expenditures between 2009 and 2014.

Figure 5.5: Central Government Wage Bill by Income Level



Source: World Bank staff estimates based on IMF GFS data as of June 2015.

Note: GDP data are from the IMF World Economic Outlook April 2015 dataset. Data for Mexico are not available in the IMF GFS database.

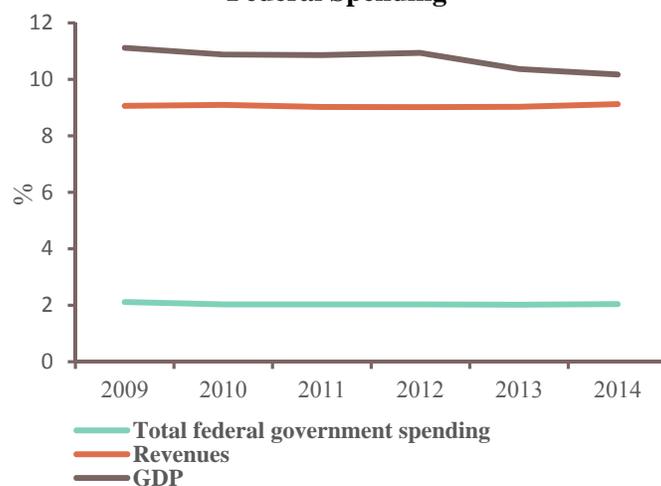
17. **Wage expenditures in the federal government¹³ grew modestly between 2009 and 2014, and they did not exceed the growth of total federal spending.** Personnel expenditures represented just over 10 percent of the federal budget in 2014, down slightly from 2009.¹⁴ The federal government’s wage bill

¹³ See supra note 11.

¹⁴ Tomo II, Gobierno Federal.

increased at an average annual real growth rate of 2.6 percent between 2009 and 2014,¹⁵ broadly in line with real GDP growth. While the growth of the federal wage bill did not outpace the growth of total spending, it slightly exceeded total revenues (Figure 5.6). Wage bill expenditures in the APF¹⁶ grew by 2.1 percent per year in real terms between 2009 and 2014.

Figure 5.6: The Federal Government Wage Bill as a Share of GDP, Total Revenue, and Overall Federal Spending



Source: World Bank staff estimates using data from the public accounts.

Note: Data does not include federal transfers (*aportaciones*)

18. **The SHCP maintains tight controls over APF wage expenditures through the federal budget decree and has established processes for approving new permanent positions.** Institutional responsibility for human resource management in the APF is shared between the SFP and the SHCP. Within the SFP the Unit for Human Resource Policy (*Unidad de Política de Recursos Humanos*, UPRH) is tasked with coordinating human resources management for the federal public administration, as well as monitoring and strengthening the SPC.¹⁷ Well-established processes are in place for the development and approval of organizational structures and job descriptions, which are subsequently linked to the budget and approved by both the SHCP and SFP. An up-to-date registry of federal government employees has also been in place since 2004.

Recent Effects of Wage Bill Controls

19. **The federal government has taken steps to maintain the overall stability of personnel expenditures by curbing wage increases and limiting new permanent positions.** However, these measures have resulted in distortions in pay levels between grades and across different institutions in the APF. Wage bill controls have had especially significant effects on the use of temporary employment contracts, on the composition of pay and career incentives.

20. **Since 2007 the annual federal budget decree has included measures designed to contain personnel expenditures in the APF.** These include reducing spending on salaries and wages for temporary workers (*eventuales*) and fee-based (*honorarios*) workers in the APF by 5 percent, and limiting the hiring

¹⁵ This section only examines public accounts data from 2009-2014.

¹⁶ In Mexico's public accounts this analysis only includes the Ramos Administrativos of Tomo III.

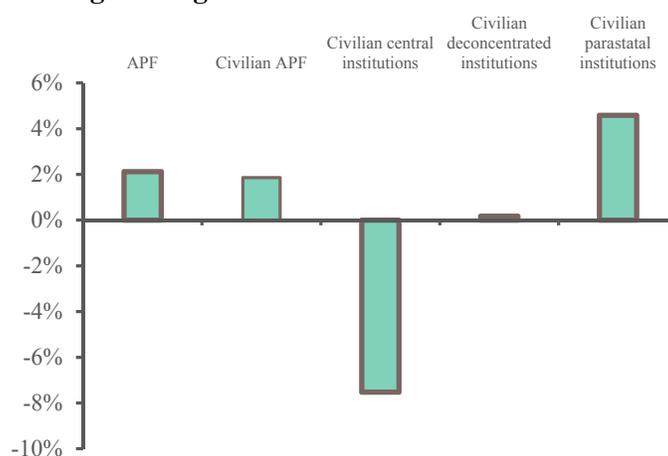
¹⁷ Reglamento Interior de la Secretaría de la Función Pública - Artículo 19

of *eventuales* for nonessential functions.¹⁸ In an effort to speed attrition in the federal workforce, two voluntary retirement programs for administrative staff (*operativos*) were put into effect in 2008 and 2011. These measures are aimed at creating a less costly and more efficient workforce. In 2003, salaries of the SPC, Mexico’s newly established merit-based civil service, were also frozen. This has had the effect of lowering SPC employee wages vis-à-vis unionized staff at the upper end of their pay scale.

21. **As a result of these measures budgeted permanent compensation at the federal level decreased by 11 percent in real terms between 2010 and 2014.**¹⁹ Remuneration at the federal level is allocated in the annual budget.²⁰ Budgeted permanent compensation refers only to permanent payments (*percepciones ordinarias*) and excludes extraordinary payments (*percepciones extraordinarias*). Between 2010 and 2014 total budgeted permanent compensation rose from MXN 701 billion to MXN 724 billion—a 3 percent increase in nominal terms, but an 11 percent decrease in real terms.²¹

22. **An in-depth analysis of civilian personnel²² in the APF between 2010 and 2014 reveals that the number of positions in central institutions decreased, while positions in deconcentrated institutions remained stable and positions in parastatal institutions increased (Figure 5.7).** Between 2010 and 2014 the total number of full-time employees in the APF as a whole rose by a moderate 2.1 percent, and the number of civilian full-time public employees rose by 1.9 percent. Civilian employment in central institutions decreased by 7.5 percent, while civilian employment in deconcentrated and parastatal institutions increased by 0.2 percent and 4.6 percent, respectively.

Figure 5.7: Percentage Change in the Number of Positions in the APF, 2010-2014



Source: World Bank staff estimates based on *Presupuesto de Egresos de la Federación, Tomo VIII, Análítico de Plazas y Remuneraciones 2010 and 2014*.

Temporary Personnel

23. **Data on executed spending in the APF²³ indicate that between 2009 and 2014 remuneration for temporary personnel rose by 25 percent (Figure 5.8).** Temporary personnel include workers with

¹⁸ This excludes cases where a temporary authorization has been provided to address an unanticipated increase in the activities of a respective administrative unit or area.

¹⁹ The GDP deflator was used for the conversion to real terms. During this period the GDP deflator increased by 15.4 percent.

²⁰ Tomo VIII of Análítico de Plazas y Remuneraciones.

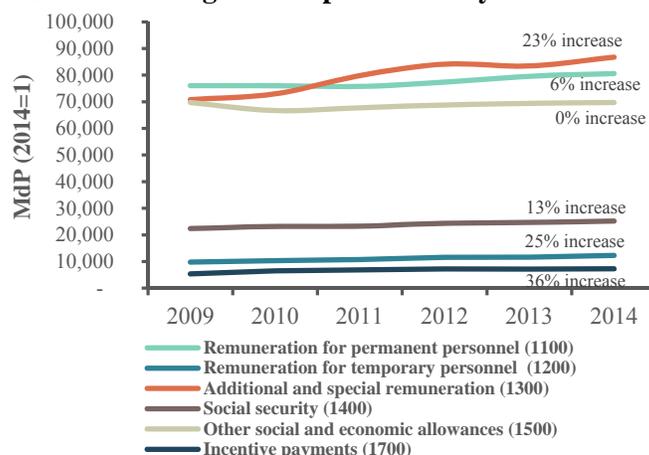
²¹ A decrease in salaries in nominal terms is prohibited by the 2008 Budget Law.

²² Civilian employment excludes military personnel. This analysis is based on the Análítico de Plazas y Remuneraciones 2010-2014, Tomo VIII.

²³ This includes all personnel expenditures under the Ramos Administrativos of Tomo III.

benefits (*eventuales*) and fee-based workers who do not receive benefits (*honorarios*). According to the SHCP the increased demand for temporary staff is due in part to tighter controls on the creation of permanent positions, as well as the assignment of new mandates and responsibilities to federal institutions. However, shifts in organizational arrangements within the APF limit the comparability of personnel expenditures over time.²⁴

Figure 5.8: Real Growth of Wage Bill Expenditures by Administrative Budget Lines



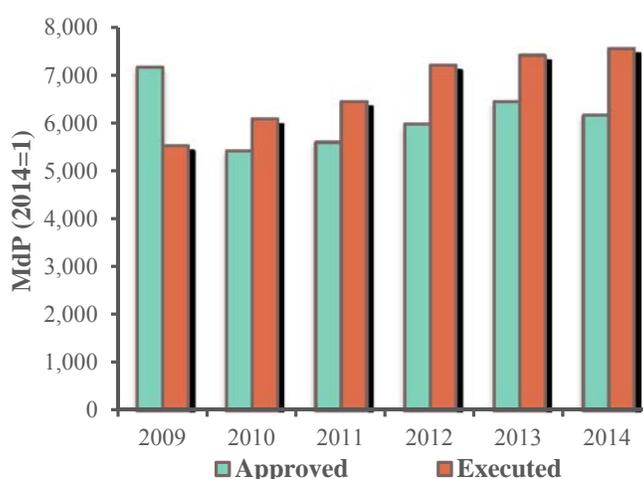
Source: World Bank staff estimates based on the public accounts, *Tomo III*.

Note: The analysis only includes “*Ramos Administrativos*,” which encompass all APF entities (see http://www.diputados.gob.mx/PEF2015/html/tomo_iii.html for a full list). It does not include “*Ramos Autónomos*,” which cover entities in the legislative and judicial branches and the Federal Electoral Institute, among others. For a full list see: <http://www.diputados.gob.mx/PEF2015/rautonomos.html>

24. **The approved budget for temporary (*eventuales*) personnel has been frequently overspent since 2010.** In 2014 the APF’s executed budget for base payments (*sueldo base*) of temporary workers was 23 percent higher than originally approved (Figure 5.9). Between 2009 and 2014 the approved budget for temporary workers (*eventuales*) decreased by 14 percent in real terms, yet the executed budget *increased* by 37 percent. The use of temporary contracts varies across institutions within the APF.

²⁴ For example, the National Institute for the Evaluation of Education (*Instituto Nacional para la Evaluación de la Educación*, INEE) used to be part of *Ramo 11* in 2009 and in 2014 it is budgeted separately in Autonomous *Ramo 42*.

Figure 5.9: Base Payments for Temporary Personnel (*Eventuales*), 2009-2014



Source: World Bank staff estimates based on approved and executed budgets.

25. **Each APF institution can hire temporary personnel with the approval of the SHCP, but hiring procedures tend to be *ad hoc*.** The SHCP reviews requests for temporary personnel and ensures that there is no duplication of functions; however, once approved, the hiring process is largely at the discretion of the hiring manager. Some central institutions report using temporary workers, including senior staff, to cover expanded institutional roles and mandates because of restrictions in hiring new permanent staff. Hiring *eventuales*, who receive employee benefits, tends to be costlier than hiring *honorarios*. The use of *eventuales* for permanent tasks creates a possible legal liability for the government, as the possibility that they may sue the government after their dismissal has potentially serious financial consequences.²⁵

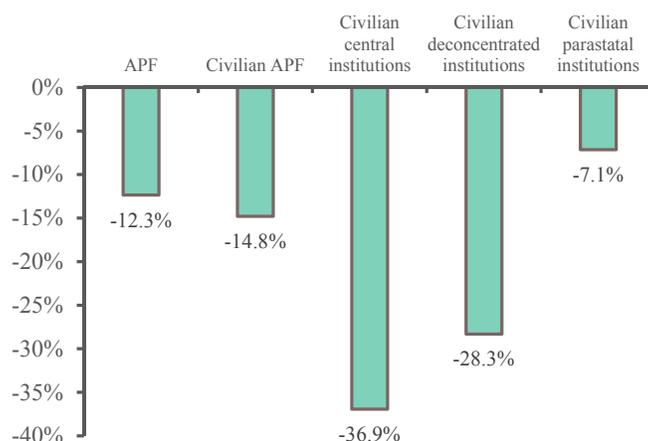
26. **Over the same period additional and special remuneration and incentive payments for administrative personnel (*operativos*) and specific categories of workers (*categorias*) also increased significantly.** Benefits classified under additional and special remuneration grew by 23 percent. According to the SHCP this is the result of an increase in certain types of benefits, particularly seniority benefits and benefits subject to labor union negotiations. Meanwhile, spending on incentive payments grew by MXN 1.93 billion, a real increase of 36 percent. Most incentive payments went to *operativos*.

Compensation Across APF Institutions

27. **The recent decrease in total budgeted permanent compensation between 2010 and 2014 predominately affected central institutions in the APF.** As previously noted, the federal public administration is composed of two different types of institutions: central and parastatal. Central institutions include the ministries and deconcentrated agencies subordinate to a parent ministry, such as the National Commission of the Retirement Savings System (*Comisión Nacional del Sistema de Ahorro para el Retiro*) under SHCP. Although they are autonomous, parastatal institutions receive federal funding and include a range of institutions such as the National Autonomous University (*Universidad Nacional Autónoma de México*), the Mexican Institute of Social Security (*Instituto Mexicano del Seguro Social*) and state-owned enterprises such as PEMEX and CFE. Between 2010 and 2014 average federal budgeted remuneration by position in the APF declined by 12.3 percent in real terms. Civilian central institutions experienced the most significant decrease (36.9 percent), followed by deconcentrated institutions (28.3 percent). In contrast, civilian parastatal entities only declined by 7.1 percent (Figure 5.10).

²⁵ There is some evidence of this in the lawsuits taken to the *Tribunal Federal de Conciliación y Arbitraje*.

Figure 5.10: Average Permanent Compensation per Position in the Federal Budget, Real % Change between 2010 and 2014



Source: World Bank staff estimates based on *Presupuesto de Egresos de la Federación, Tomo VIII, Analítico de Plazas y Remuneraciones* 2010 and 2014.

28. **Base pay accounted for 37 percent of total permanent compensation in central institutions and 55 percent in deconcentrated institutions in 2014.** The parastatal sector exhibited more variability—at one end of the spectrum base salaries in national insurance and security deposit institutions represented as much as 66 percent of total permanent compensation (Table 5.1), increasing by 11 percent between 2010 to 2014. The share of base pay in total permanent compensation is important, as pensions are calculated on the basis of base pay. As a result, differences in base pay can have a significant effect on the total compensation levels of public servants.

Table 5.1: Base Salary as a Percentage of Total Permanent Payments

Type of Administration	Government Sector	Base salary as a percentage of total permanent payments		
		2010	2014	Increase in Percentage (2010-2014)
Central	Central Institutions	30	37	7
Deconcentrated	Deconcentrated Institutions	42	55	14
Parastatal	Decentralized Institutions	25	29	3
	State Majority Shareholder SOEs	47	53	5
	National Credit Institutions	47	47	1
	National Insurance and Security Deposit Institutions	55	66	11
	Funds and Trust Funds	51	60	9
Overall Public Federal Administration (not weighted)		29	34	5

Source: *Presupuesto de Egresos de la Federación, Tomo VIII Analítico de Plazas y Remuneraciones, Administración Pública Federal* for 2010 and 2014

29. **The differing shares of base pay in total compensation across the APF, particularly between central and parastatal institutions, undermines equity of pay in the federal public service.** There is an argument for allowing flexibility in meeting the diverse management and organizational needs of different institutions within the government, and to the extent that pay levels set by one type of institution have only modest consequences for other government employers this may be justifiable. However, if these institutions are dependent on similar budget sources, asymmetric compensation may affect the ability of other

government employers to attract and retain staff. Further analysis will be necessary to determine the extent to which differences in pay are driving high turnover rates for specific categories of staff.

Career Progression Incentives

30. **Compression ratios can be used to measure the financial incentives of existing public sector staff to seek out and accept positions of greater responsibility.** The analysis uses the OECD definition of compression ratio,²⁶ which measures wage compression as the ratio between the medians of the first and ninth deciles of pay levels to ensure that a handful of salaries do not dramatically skew the results. The input data employed are from *Tomo VIII*, which excludes extraordinary payments (*percepciones extraordinarias*). The SHCP uses the central pay scales, as well as sector-specific pay scales, to estimate the value of position-based benefits during the preparation of *Tomo VIII*, which yields the most precise estimate available for total compensation. The results of a compression ratio depend to a large extent on the nature of the input data and calculation method employed. Using data on base salaries alone, as opposed to total permanent payments, produces significant variations in the extent of the compression. For this reason total permanent payments were used to calculate compression ratios.

31. **Compression ratios for the central sector are substantially lower than those of the parastatal sector in 2014.** Between 2010 and 2014 the compression ratio in the central sector (which includes central and deconcentrated institutions) fell dramatically from 13.9 to 4.2, while the compression ratio in the parastatal sector increased slightly from 7.5 to 9.7 (Table 5.2). Most central institutions apply the central pay scale, which contributes to their relatively low compression ratios. Certain ministries apply the central pay scale for all positions while others that rely on specific technical expertise, such as in the health or education sectors, apply a sector-specific pay scale. Compression ratios tend to be lower for institutions that use only the central pay scale.

Table 5.2: Compression Ratios in the APF (Median 9th Decile/Median 1st Decile)

Government Sector	Compression Ratios*		Share of Positions		Share of Total Personnel Budget**	
	2010	2014	2010	2014	2010	2014
Central Institutions	10.0	4.2	42%	28%	23%	20%
Deconcentrated Institutions	6.1	4.2	10%	16%	15%	12%
Parastatal Institutions	11.0	9.7	55%	56%	60%	68%
Total across APF	10.0	6.6	100	100%	100%	100%

Source: World Bank staff estimates based on *Presupuesto de Egresos de la Federación, Tomo VIII, Analítico de Plazas y Remuneraciones* 2010 and 2014.

Note* Compression ratios use total permanent payments (*percepción ordinaria*) as budgeted in *Tomo VIII*

Note** Refers to total personnel budget of *Tomo VIII*.

32. **However, these results should be interpreted with caution, as the handful of salaries that this definition excludes (the 5 lowest percentiles and 5 highest percentiles) may significantly alter the overall distribution.** In Mexico the relatively small number of positions at the top of the compensation structure represent a significant share of total remuneration. The top 5 percentiles accounted for 40 percent of total compensation in 2014, while the bottom 5 percentiles made up just 2 percent. Using an alternative definition of the compression ratio, one that compares maximum permanent compensation to minimum

²⁶ Lonti and Woods, 2008, p.99

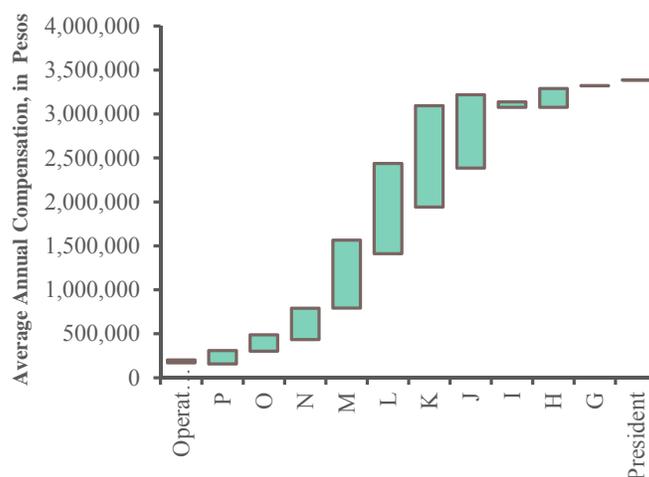
permanent compensation, yields surprisingly high ratios across all institutions in the APF, particularly parastatal institutions.

Effects of the Central Pay Scale

33. **The equity of pay between levels of the central pay scale within the federal public sector has also worsened since 2004.**²⁷ The freezing of SPC salaries since 2003 has been a major contributing factor, lowering SPC employee wages vis-à-vis unionized staff at the upper end of their pay scale. As a result, unionized administrative (*operativo*) personnel at the top of their respective pay scales often come close to or exceed the remuneration of more senior liaison officers (*enlace*), who require higher levels of education and more advanced credentials.²⁸ This is reflected in the low compression ratio (1.7) between *enlace* and *operativo* positions. Interviews with the SFP suggest that this convergence in remuneration has reduced the incentives of some public servants to seek out promotions. For unionized personnel a distinct but related issue is that there is a relatively small difference in salaries at different levels of the pay scale, which has weakened the link between career progression and compensation.

34. **An analysis of average annual permanent payments in 16 ministries reveals significant overlaps between some levels of the central pay scale.** Examining average annual permanent payments across pay scale categories (Figure 5.11) reveals a relatively large overlap between the upper *mando medio* (L and K) and lower *mando superior* (J and I) categories, while total compensation levels in other categories are more consistent. This type of distribution is not uncommon in bureaucratic organizations, in which mid-level staff often vary much more in terms of educational qualifications and years of experience than those at the top and bottom of the professional hierarchy.²⁹ The analysis also shows a significant overlap between *operativo* and *enlace* (P) positions. This suggests that staff with substantially different levels of responsibility can receive similar levels of compensation.

Figure 5.11: Average Annual Total Permanent Payments Across Pay Scale Levels



Source: World Bank staff estimates based on *Presupuesto de Egresos de la Federación, Tomo VIII, Analítico de Plazas y Remuneraciones 2014*.

Note: The sample of 16 ministries used in this analysis corresponds to the central institutions in the APF that exclusively apply the central sector pay scale.

²⁷ IADB, 2014. “Diagnóstico institucional del servicio civil en América Latina: México.”

²⁸ Manual of Payments, Annex 2 (*operativo* pay scale) and 3B (*enlace* pay scale). Level 7 (out of 11 levels) of the *operativo* pay scale is higher than level 1PQ of the *enlace* pay scale.

²⁹ World Bank, 2010. p.29.

35. **An analysis of the 16 central institutions that only apply the central pay scales reveals substantial differences between the salary levels of middle and senior management (*mando medio* and *mando superior*) and those at the bottom of the administrative (*operativo*) category.** The difference between the President’s compensation (MXN 3,386,169), which marks the top of the pay scale, and the compensation of an entry-level *operativo* position (MXN 184,874) is vast (Figure 5.11). The central pay scale consists of three employment categories which comprise 97 levels: the top category consists of *mando superior* (38 levels) and *mando medio* (36 levels). This is followed by *enlace* (12 levels) and *operativo* (11 levels) categories. *Mando medio* encompasses 30 percent of positions in the 16 central institutions and 54 percent of their total compensation.

36. **Compression ratios appear to indicate that financial incentives for public servants to seek promotions from one level of the pay scale to the next are highly inconsistent.** Comparing employment categories, middle management (*mando medio*) shows the greatest difference between pay levels at the top and bottom of the scale (9.8), suggesting that *mando medio* staff have greater incentives to seek out promotions. The other categories (*mando superior*, *enlace* and *operativo*) have compression ratios of between 2.0 and 2.3, indicating fewer incentives for staff to pursue promotions (Table 5.3). The financial incentives of staff become very high when comparing compensation between *mando* and *enlace* categories (25.5) and are even higher when comparing *mando* and *operativo* categories (30.4). Significant differences in compensation levels between *mando* and *enlace* and *operativo* categories suggest a high degree of variability in the financial incentives among public servants to seek promotions. However, these findings should be interpreted with caution as the analysis is based on a sample representing only 9 percent of positions in central institutions and 2 percent of positions in the APF, and there is evidence (Table 5.4) that other government sectors in the APF, such as parastatals, are much more decompressed.

Table 5.3: Compression Ratios Comparing Minimum and Maximum Monthly Permanent Payments Across Employment Categories (16 Central Institutions)

		2014 Average of Base Salary/ Permanent Payments (%)	Compression Ratios within Employment Categories (permanent payments)		Compression Ratios between President and Employment Categories (permanent payments)		
			2010	2014	2010	2014	
<i>Mando</i>	<i>Superior</i>	President	74	7.7	2.2		
		KA1	74			7.7	2.2
	<i>Medio</i>	LC3	74	8.1	9.8		
		OA1	68			11.1	13.6
<i>Enlace</i>	PC3	68	2.0	2.3			
	PQ1	60			21.8	25.5	
<i>Operativo</i>	Level 11	53	1.7	2.0			
	Level 1	48			22.9	21.0	

Source: World Bank staff estimates based on *Presupuesto de Egresos de la Federación, Tomo VIII, Análisis de Plazas y Remuneraciones 2010* and 2014.

Note: Compression ratios compare minimum and maximum monthly permanent payments across employment categories in a sample of 16 ministries under the central sector.

Table 5.4: Composition of Sample 16 Central Institutions

Employment Category		Number of Sub-levels	Number of Positions		Share of Positions among Sample		Share of Total Compensation	
			2010	2014	2010	2014	2010	2014
<i>Mando</i>	<i>Superior</i>	38	852	748	2%	2%	10%	7%
	<i>Medio</i>	36	13,955	13,424	25%	30%	46%	54%
<i>Enlace</i>		12	9,448	7,651	17%	17%	11%	11%
<i>Operativo</i>		11	31,829	23,333	57%	52%	33%	28%
TOTAL		97	56,084	45,156				

Source: World Bank staff estimates based on Presupuesto de Egresos de la Federación, Tomo VIII, Analítico de plazas y remuneraciones 2010 and 2014.

Note: The 16 institutions correspond to the ministries in the following budget lines (*Ramos*) of the APF: 02 Office of the President, 04 Governance, 05 Foreign Service, 06 Ministry of Finance and Public Credit, 08 Agriculture, Livestock, Rural Development, Fishing and Food, 10 Economy, 15 Agricultural, Land and Urban Development, 18 Energy, 20 Social Development, 21 Tourism, 23 Salary and Economic Provisions, 27 Public Administration, 31 Agricultural Courts, and 37 Federal Executive Judiciary Office.

37. **Within the sample of 16 Ministries that only apply the central sector pay scale, while base salaries account for 48 percent of compensation for administrative personnel (*operativo*), they account for 74 percent of compensation for *mandos medios* and other more senior-level positions.** As pensions are calculated on base pay, differences in base pay have a large effect on the total compensation levels of public servants. To compensate for this difference, other forms of remuneration such as incentive payments are common for administrative personnel (*operativo*). Such payments are captured in the budget under additional and special remuneration.

38. **While the overall growth of the federal wage bill has been modest, and aggregate expenditure levels appear reasonable, a number of underlying distortions in APF compensation merit further attention.** The use of temporary personnel allows for greater flexibility in human resource allocation, but it also creates uncertainty in the staffing of permanent functions and limits investment in the professionalization of the workforce. In addition, the low share of base pay in the total compensation of certain categories of staff may lower pension costs, but it also increases the opacity of the public payroll and creates distortions in overall compensation. Moreover, differences in base pay can diminish incentives for qualified staff to work in central institutions vis-à-vis deconcentrated and parastatal institutions. Finally, an uneven distribution of compensation can erode incentives to assume positions of greater responsibility. While some of the observed differences may be due to the inherent structure of the workforce, these issues should be carefully examined to ensure that compensation distortions are not resulting in excessive turnover in specific staff categories.

WORKFORCE STRUCTURE AND INCENTIVES

39. **This section assesses whether the structure of the APF workforce is conducive to ensuring that public servants have the skills, competencies and incentives necessary for high quality public service delivery.** The analysis reveals a number of underlying factors that constrain the ability of the public sector to develop a suitably structured workforce of appropriate size and with the right skillsets.

Composition of the APF workforce

40. **Public sector employment in the APF is governed by a number of laws and regulations, the principal statute being Section B of Article 123 of Mexico's Constitution.** Section A of Article 123 establishes the general principles governing labor relations between private parties. The Federal Work Law (*Ley Federal del Trabajo*) refers to Section A of Article 123 and regulates contracts and labor relations in

the private sector and parastatals. The Federal Law of the Workers Serving the State (*Ley Federal de los Trabajadores al Servicio de Estado*), also referred to as the Bureaucratic Law (*Ley Burocrática*), corresponds to Section B, and regulates aspects of public sector employment. While all private sector labor relations are regulated by the Federal Work Law, the Federal Law of the Workers Serving the State does not necessarily regulate all public sector labor relations. A wide range of legislation applies to different types of public sector employees. For example, employees of the military, the police, and the Foreign Service are all regulated through distinct laws. Yet despite the array of laws governing labor relations, the foundations of labor regulation in Mexico are the Federal Work Law and the Federal Law of the Workers Serving the State.

41. **Article 3 of the Federal Law of the Workers Serving the State categorizes public servants in Mexico by function and contract type, with each contract type entailing distinct human resource management practices and labor regimes (Table 5.5).** There are two main categories of public servants: those on non-unionized (*confianza*) contracts and those on unionized (*base*) contracts. Unionized contracts are “immovable,” which means that even in cases where a person transitions from a unionized to a non-unionized contract they legally maintain their *base* status and may return to a unionized contract at any point. There is some controversy as to whether non-unionized contracts can also be considered immovable, but the general consensus is that they cannot.

Table 5.5: Public Servant Categories and Contract Types in the APF

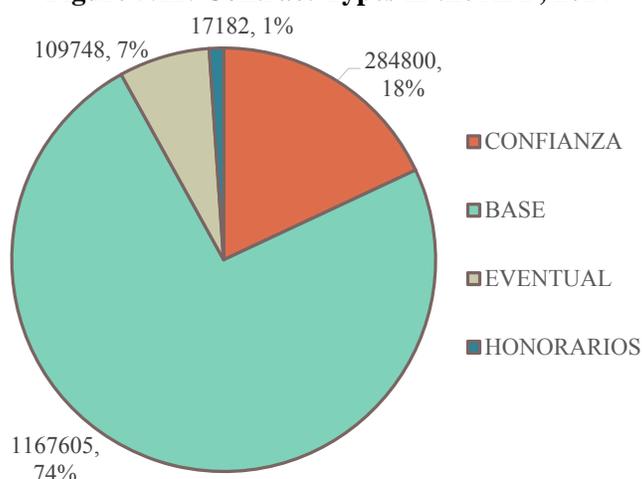
Public Servant Categories	<p>A. Civilian personnel are divided into the following types:</p> <ul style="list-style-type: none"> • Mando: management personnel. This includes secretaries of state, chief of department and equivalent positions <ul style="list-style-type: none"> ◦ <i>Mandos</i> occupy pay scales G to O • Enlace: liaison officer. <i>Enlace</i> coordinate or manage functions or activities under the supervision of <i>Mandos</i> <ul style="list-style-type: none"> ◦ <i>Enlace</i> occupy pay scale P • Operativo: administrative personnel <ul style="list-style-type: none"> ◦ <i>Operativos</i> have a distinct pay scale, covering levels 1-11 • Categorías: specific categories of workers or specialists. This includes teachers and doctors
Contract Types	<p>Public servant contracts:</p> <ul style="list-style-type: none"> • Confianza: non-unionized • Base: unionized • Eventual: temporary personnel with some benefits <p>Non-public servant contracts:</p> <ul style="list-style-type: none"> • Honorarios: fee-based contracts. These contracts do not include any employee benefits and are subject to civil legislation. They do not entail a legally recognized labor relationship with the requesting institution.

Source: *Ley Federal de los Trabajadores al Servicio del Estado*, Regulation of Section B of Article 123 of the Constitution; *Reglamento de la Ley Federal de Presupuesto y Responsabilidad Hacendaria*

42. **At the federal level the vast majority of public servants are on unionized contracts and occupy administrative (*operativo*) positions.** Almost 75 percent of federal public servants (excluding fee-based *honorario* contracts) were on unionized contracts in 2014, while only 18 percent were on non-unionized contracts (Figure 5.12). The ratio of unionized to non-unionized contracts remained relatively constant from 2011 to 2014. Short-term contracts (which include *eventuales* and *honorarios*) represented 8 percent of contracts in the APF.

43. **Whether public servants work on unionized or non-unionized contracts has important implications for employment flexibility and staff professionalization and performance.** Public employees on unionized contracts generally occupy administrative positions with a significant level of contractual stability.³⁰ According to Article 64 of the Federal Law of the Workers Serving the State, when a vacancy is created, only entry-level positions become available for open competition. When a vacancy is created at a higher grade level, personnel are promoted from within the agency, so that the vacancy runs down “the ladder,” or grading system, until a position opens up at the lowest grade level. Article 62 of the law establishes that 50 percent of these vacancies will be filled through the institution’s own selection process and the other 50 percent will be filled by the union. Non-unionized personnel generally occupy more professional management positions with shorter-term contracts. They are often in charge of public policy decisions and are either political appointees or senior technical officials within the 6 top grades of the federal civil service covered by the SPC. There are important historical reasons behind the current composition of Mexico’s public sector workforce dating to the 1917 Constitution, which distinguishes between personnel on unionized and non-unionized contracts. This distinction continues to have important implications for the structure of the workforce today.

Figure 5.12: Contract Types in the APF, 2014



Source: Data from Single Registry of Federal Public Servants (*Registro Único de Servidores Públicos del Gobierno Federal*, RUSP), December 31, 2014

44. **Within the APF, about 75 percent of public servants are in the administrative (*operative*) category.** Only 5 percent of public servants were classified as management (*mando*) in 2014 and 3 percent as liaison officers (*enlace*).³¹ The relatively high proportion of administrative support staff suggests that the workforce may be somewhat underqualified in relation to the functional requirements of the federal government. This may be partly explained by differences in the delivery of basic support functions (e.g. cleaning), which in many OECD countries is contracted out to the private sector. Nevertheless, it is worth reflecting on how to best ensure that the public sector workforce has the right mix of skills and qualifications to execute the tasks and functions assigned to the APF.

45. **Compared with other OECD countries the proportion of professional staff in Mexico’s federal public administration is relatively low.** In OECD countries as work becomes more knowledge

³⁰ Article 6 of the Federal Law of the Workers Serving the State.

³¹ The RUSP only contains information for the 264 institutions in the APF that consistently report to the RUSP, and excludes military personnel, personnel paid through subnational transfers (*gasto federalizado*), as well as public security personnel. The data correspond to the number of public servants in the RUSP and not to the organic structures of the APF.

intensive, the proportion of professional-level staff in the public administration tends to increase. The occupational profile of the federal government workforce in Australia (2010), the United States (2009), and Norway (2009) was around 75 percent professional³² and 10 percent support staff, with the remainder in other occupational groups.³³ However, these figures are approximations and should be interpreted with caution given differences in the roles and responsibilities of government agencies and variations in workforce classification.

The Size and Scope of the Professional Career Service

46. **Established in 2003 the SPC is a merit-based career system designed to develop a cadre of permanent senior-level civil servants.** The SPC includes the six senior grades of the civil service: general director, deputy director general, director, sub-director, head of department and liaison officer. Members of the military, staff at the Office of the Presidency and the Secretariat of Foreign Affairs, as well as teachers, doctors and senior political appointees are excluded from the SPC. The SPC includes seven “sub-systems:” planning for human resources, professional development, training and certification, performance evaluation, severance, and control and evaluation. According to Article 52 of the Law of the Professional Career Service each SPC civil servant must undergo a performance evaluation at least once every five years to certify that they have maintained the necessary skills to perform their core functions.

47. **The SPC has a limited scope at the federal level and in centralized institutions.** As of January 2015 there were 29,103 public servants in the SPC, representing roughly 2 percent of Mexico’s 1.6 million federal public servants. Almost 75 percent of institutions under the APF are not subject to the SPC. Moreover, decentralized institutions have their own salary systems, which often enable them to be more competitive than the SPC in attracting senior-level civil servants. There are about 25 career services (*servicios de carrera*) in the federal government, which are managed by various federal entities. For example, the Ministry of Foreign Relations is responsible for the Mexican Foreign Service.³⁴ There are 12 career services in the executive branch alone, representing 4.8 percent of all APF positions in 2012.³⁵

48. **Recruitment into the SPC is conducted through open competition.** A candidate is assessed by a committee responsible for hiring SPC civil servants, and all candidates undergo an interview, technical examination and psychometric test. However, under exceptional circumstances according to Article 34 of the SPC Law a temporary appointment to the SPC can be made without undergoing the selection process, but eventually they must participate in an open competition. Temporary appointments can be for a maximum of 10 months and can be made no more than twice in two years with a one-year gap. These positions are usually opened to competition within 45 days and are often filled by the same person who previously served as a temporary appointee, if they pass the open competition. According to how they enter the workforce public servants are classified as either *titulares*, those who win an open competition, as well as those who have been certified for their position according to their skills and capabilities, and *eventuales*, which include first-year entry-level staff and temporary appointees under Article 34.

49. **Competitive selection processes can take two and a half months and norms regarding the use of temporary employment contracts result in the frequent use of Article 34.** In 2014 4,692 SPC positions were awarded through competitive selection, and 3,972 temporary appointments were made

³² Professionals are defined as staff between the levels of managerial and clerical and administrative support staff.

³³ OECD, 2015. *Dominican Republic: Human Resource Management for Innovation in Government*. OECD Public Governance Reviews, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264211353-en>. The data are from a July 2013 OECD survey on strategic human resource management in central and federal governments.

³⁴ Auditoria Superior de la Federacion, Evaluacion Numero 230, “Servicios de Carrera en el Estado Federal.”

³⁵ *Ibid.* Pg. 44.

through Article 34.³⁶ Interviews indicate that justifications are imprecisely defined, and therefore many situations can warrant the use of Article 34. A recent OECD study found similar practices.³⁷

50. **A recent OECD report on the challenge of professionalizing the public service in Mexico presented a number of recommendations for strengthening the SPC.** These include: (i) reviewing the recruitment and selection process and clarifying the terms and conditions for the use of Article 34; (ii) transforming the Single Registry of Federal Public Servants (*Registro Único de Servidores Públicos del Gobierno Federal*, RUSP) into a talent pool for human resource planning; (iii) improving the job catalog for the SPC focusing on workforce skills requirements; (iv) expanding collaborative networks involving human resource directors; and (v) discussing, revising and publishing the Program of the SPC.

Adequacy of Compensation

Current Compensation Structure

51. **Public sector salaries in Mexico consist of permanent payments (*percepciones ordinarias*) and extraordinary payments (*percepciones extraordinarias*).** Permanent payments reflect the total fixed salaries public servants receive, while extraordinary payments entail variable and irregular payments.³⁸ The remuneration system consists of both monetary and in-kind compensation. It excludes payments for verified work and travel expenses, security-related services and pensions. In Mexico, wages and salaries consist of two elements: (i) a base salary, established through either one of the central pay scales or a distinct scale; and (ii) guaranteed compensation (*compensación garantizada*), which is determined by the applicable regulation. Public servants also receive certain benefits (*prestaciones*) based on their labor category. Benefits are granted either by law (this includes social security and retirement savings) or at the discretion of the Federal Executive. The end-of-year payment (*gratificación de fin de año*) is an example of an employee benefit determined annually by the Federal Executive. Extraordinary payments include incentive pay granted on an exceptional basis, risk premiums and overtime pay (Box 5.1).

³⁶ Data from RHNet, December, 31 2014, accessed February 4, 2015.

³⁷ OECD, 2011.

³⁸ Article 19, Presupuesto de Egresos de la Federación para el Ejercicio Fiscal 2015. Accessed here: http://www.diputados.gob.mx/LeyesBiblio/pdf/PEF_2015.pdf

Box 5.1: Remuneration Structure in Mexico

A. Permanent payments (*percepción ordinarias*):

- a. Wages and salaries
 - i. Base salary (established through a pay scale)
 - ii. Guaranteed compensation (determined by the applicable regulation)
- b. Employee benefits (*prestaciones*) based on the applicable labor category. Employee benefits are determined by:
 - i. Legal mandate (e.g. social security and retirement savings, vacation, Christmas bonus (*aguinaldo*) and seniority premium).
 - ii. Discretion of the Federal Executive (e.g. institutional life insurance, retirement insurance, medical insurance, individual separation insurance, household allowance, and end-of-year bonus). Some public servants also receive public liability insurance, legal assistance and vehicle allowances, depending on their level of responsibility

B. Extraordinary payments (*percepciones extraordinarias*):

- a. Incentive and recognition payments and other paid rewards granted on an exceptional basis (conditional upon positive performance evaluations based on the terms of the applicable regulation) (only applicable for unionized personnel)
- b. Overtime payments (only applicable for unionized personnel)
- c. Other payments awarded on an exceptional basis by the SHCP and SFP according to their respective competencies and subject to applicable regulations.

Source: The Manual of Payments of Public Servants of the Offices and Entities of the Federal Public Administration, published in the Official Journal of the Federation, May 30, 2014.

52. **Mexico has implemented a number of reforms in recent years to streamline and harmonize wage bill policies.** These include measures to incorporate allowances for travel, food, telephone and insurance-related expenses in compensation policies, as well as reforms to the central government pay scale. The government has also established a limit on the total annual remuneration of public employees. Articles 8 and 9 of the Manual of Payments (*Manual de Percepciones*) state that public servants cannot earn more than the President and that no public servant can receive a salary equal to or higher than his or her supervisor.

53. **In May of each year the Manual of Payments is published and establishes compensation practices for permanent public sector employees.**³⁹ The Manual of Payments classifies employees as either civilian or military personnel, with civilian personnel further disaggregated by employment type (*operativo, enlace, mando* or *categorías*). Various pay scales (*tabuladores*) are listed in the Manual of Payments' annexes and include monthly pay limits at the federal level, encompassing both base salary and gross guaranteed compensation (*compensación garantizada bruta*). Since base salaries are used to determine social security contributions, they have been kept low historically to avoid increased pension liabilities. Base salaries and guaranteed compensation together comprise the largest share of a public servant's total pay.

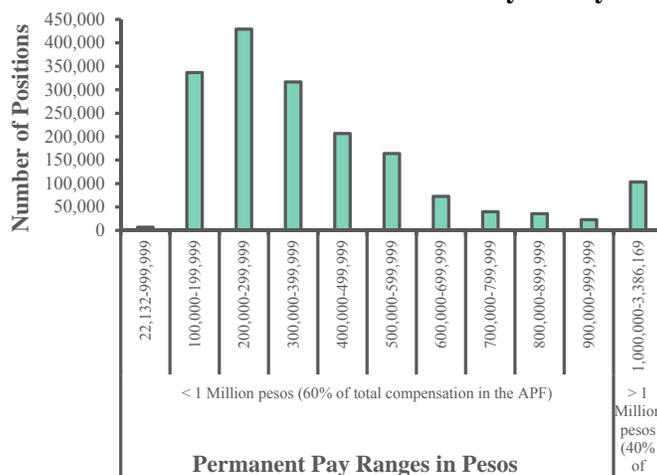
54. **Three main salary scales apply to *operativo, enlace* and *mando* public servants in the majority of central ministries (*dependencias*) and deconcentrated entities, although a number of institutions are exempted from using the central pay scales and *categorías* personnel have distinct pay scales.** Though the three main salary scales are presented as separate scales, they can be viewed as a single pay scale with three subdivisions. There are different salary scales for *categorías* personnel, such as teachers and healthcare workers, as well as for a number of parastatal entities, such as the National Institute for the Development of the Capacity of the Rural Sector (*Instituto Nacional para el Desarrollo de Capacidades del*

³⁹ "Acuerdo por el que se expide el Manual de Percepciones de los Servidores Públicos de las Dependencias y Entidades de la Administración Pública Federal." May 30, 2014 Diario Oficial

Sector Rural).⁴⁰ By some estimates, there are around 400 pay scales in the APF.⁴¹ These other pay scales should in theory be in line with the central pay scale and published on the web page of each institution in accordance with the Federal Expenditure Budget (*Presupuesto de Egresos de la Federación*, PEF).⁴²

55. **The majority of APF positions receive salaries in the lower end of the salary range, yet the top 6 percent of salaries constitute 40 percent of total compensation in the APF.** Six percent of APF positions, or 103,360 public servants, have salaries above MXN 1 million, comprising 40 percent of total compensation in the APF (Figure 5.13). In contrast, 94 percent of APF positions, or 1,631,162 public servants, have salaries below MXN 1 million, comprising 60 percent of total compensation in the APF. Furthermore, 0.4 percent of APF employees, or 6,940 staff, have salaries below MXN 100,000. The most common salary range is between MXN 200,000 and 300,000, with 25 percent of APF employees, or 429,447 positions, within this range. The majority of public servants (84 percent) fall within the range of MXN 100,000 and 600,000. This reflects the relatively high share of APF staff in administrative (*operativo*) positions. It should be noted that the data in these calculations do not include extraordinary payments (*percepciones extraordinarias*) as the monetary value of these payments is not reflected in the *Analítico de Plazas*.

Figure 5.13: Distribution of APF Positions by Salary Ranges



Source: World Bank staff estimates based on *Presupuesto de Egresos de la Federación, Tomo VIII, Analítico de plazas y remuneraciones, 2014*.

Note: *Operativo* level 1 permanent payments start at MXN 52,139.

Minimum Wage Comparisons for Administrative Staff

56. **Public sector salaries are not benchmarked against private sector salaries in Mexico and few studies have compared public- and private-sector salary levels.** In order to assess the competitiveness of federal public sector compensation the analysis examines public sector salaries vis-à-vis minimum wages in Mexico. To place this discussion in the broader context of international labor markets, a recent report from the ILO cited Mexico as one of the few countries where productivity grew faster than wages, as reflected by the decline in labor’s share of GDP since the early 2000s. Real wages declined in Mexico in both 2012 and 2013.

⁴⁰ “Aplicación de tabuladores de sueldos y salarios en las dependencias y entidades” *Manual de Percepciones*.

⁴¹ The SFP maintains a registry of all pay scales and the SHCP authorizes each pay scale.

⁴² “Artículo 21 de Presupuesto de Egresos de la Federación para el Ejercicio Fiscal,” 2014.

57. **Positions at the lowest end of the salary scale receive 2.8 times an official minimum salary in Mexico.** Minimum salaries in Mexico are approved by the National Minimum Salary Commission (*Comisión Nacional de Salarios Mínimos*, CONASAMI), which uses sectoral and geographical considerations to determine minimum salaries. An approximation for comparison with public sector employees may be obtained from the category Auxiliary Assistant (*Secretario[a] Auxiliar*) for geographic region A, which receives a higher remuneration than geographic region B.⁴³ The salary of an assistant in region A in 2014 was MXN 2,238.28 per month (assuming 22 working days a month), and MXN 26,859 per year. When compared with public sector salaries in the *Tomo VIII*, those within the most junior category of public employees (entry-level *operativos*) have a salary that on average is 2.8 times higher than the minimum salary. It should be noted that in 2014 the minimum salary for an Auxiliary Assistant in geographic region A was actually lower than the monthly income welfare line for urban areas estimated by CONEVAL, which was MXN 2,637 in December 2014.⁴⁴ This suggests that individuals receiving the minimum wage with no other income live very near the poverty line. With such low salaries and limited salary increases over the course of their careers administrative staff have few incentives for career progression.

Private Sector Comparisons for Middle and Senior Management

58. **Comparing wages in the public sector with wages for comparable positions in the private sector can help assess the competitiveness of public sector wages.** The assumption is that if public sector wages are too far below private sector wages, it may be difficult for the public sector to attract and retain staff. On the other hand, if salaries are equal to or above comparable positions in the private sector, the public sector may be crowding out labor force participation.

59. **Positions at the high end of the salary scale make a comparable salary to private sector managers.** A recent study by the Hay Group (2014) examines trends and labor market expectations in Mexico. Using 2013-2014 survey data the study estimates annual salary ranges⁴⁵ for managerial positions in six sectors: health, accounting and finance, engineering and manufacturing, retail sales, industry sales, human resources, and information and communications technology. The uppermost salary range for private sector managerial positions in these six sectors was between MXN 2.21 million and MXN 4.0 million. While it is difficult to identify equivalent positions within the public sector, managerial positions in the public sector are always budgeted below the salary of the President of the Republic, which in 2014 was MXN 3,386,169. In 2014, 0.16 percent of APF positions, or 3,844 positions, fell in the MXN 2.2 to MXN 4.0 million salary range. These would therefore represent public sector managerial positions with salaries competitive with senior-level private sector remuneration. However, it is important to note that the salary estimations for the APF exclude extraordinary payments (*percepciones extraordinarias*). Including these additional sources of income might increase the competitiveness of public sector manager salaries in relation to the private sector.

60. **Limitations in comparing positions and job functions between the private and the public sector may distort these findings.** A deeper analysis into the parity of senior-level public and private sector salaries should be conducted comparing different occupational groups with comparable posts in the private sector. Full parity with the private sector is generally not the objective of public sector compensation practices given the presence of additional benefits in the government sector (i.e. job security), intrinsic public service motivation and budget constraints.

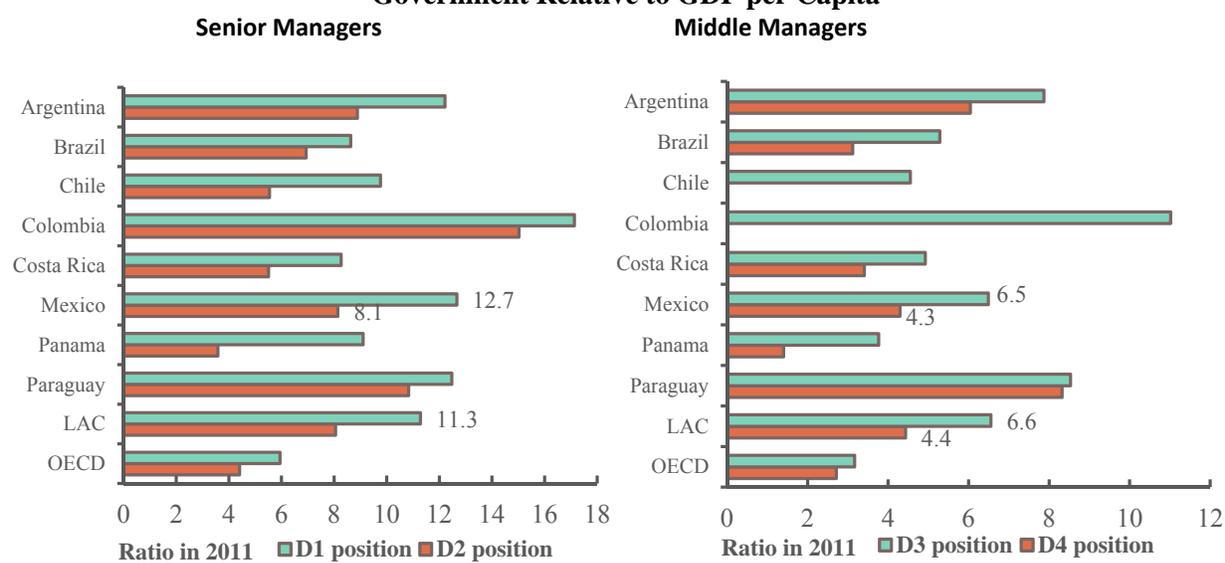
⁴³ The general minimum salary was adjusted to cover one unified geographic area following a resolution from the Honorable Board of Representatives of CONASAMI in September 24, 2015.

⁴⁴ Líneas de Bienestar México January 1992 to August 2015 (valores mensuales por persona a precios corrientes)

⁴⁵ Average annualized 13-month salary (12 month salary and 1-month end-of-year benefit).

61. **Senior and middle manager compensation levels in the central government are generally in line with LAC averages, albeit slightly higher in Mexico with regards to the most senior positions.** A recent OECD study compares average compensation levels for D1 managers (senior public servants performing duties below the secretaries of state) with more junior D2 managers. Among LAC countries the highest ratio of D1 manager salaries to GDP per capita is found in Colombia, Mexico, Paraguay and Argentina, and the lowest is found in Costa Rica (Figure 5.14).⁴⁶ The average annual compensation⁴⁷ of D1 managers in Mexico is above the LAC average; compensation levels of D1 managers in LAC countries represent 11.3 times GDP per capita, while in Mexico the figure is 12.7 times GDP per capita. For middle managers working in Mexico's central government (D3 and D4 positions⁴⁸), compensation levels are in line with LAC averages. Mexico has the lowest share of employer social contributions among LAC countries for both D3 and D4 positions.⁴⁹ Similar to other LAC countries Mexico has higher compensation differentials when compared to the OECD. Other studies suggest relatively high levels of remuneration in the public sector, particularly for senior positions.⁵⁰ This has been historically justified in Mexico as a means of attracting talent to the public sector and of offsetting the limited job security of some *confianza* contracts.

Figure 5.14: Average Annual Compensation of Senior and Middle Managers in the Central Government Relative to GDP per Capita



Source: 2013 OECD Survey on Compensation of Employees in Central/Federal Governments; IMF World Economic Outlook, October 2013. For OECD countries, data are from the OECD 2012 Survey on Compensation of Employees in Central/Federal Governments and OECD STAN/Nationals Accounts Statistics database.

62. **Whether the slightly lower salaries for middle management (the grades covered by the SPC) impede the public sector's ability to attract and retain staff can be assessed by examining separation**

⁴⁶ "Average Annual Compensation of Senior Managers in Central Government Relative to GDP per Capita" from 2013 OECD Survey on Compensation of Employees in Central/Federal Governments; IMF World Economic Outlook, October 2013. For OECD countries data are from the OECD 2012 Survey on Compensation of Employees in Central/Federal Governments and OECD STAN/Nationals Accounts Statistics (database).

⁴⁷ Total compensation includes wages and salaries, as well as funded and unfunded employer social contributions. Social contributions are restricted to health and pensions systems so as to have consistent data across countries.

⁴⁸ D3 managers lead and manage teams of professionals within their particular area. They establish and oversee budgets, control expenditures and ensure the efficient use of resources. D4 managers formulate and provide policy advice and oversee staff selection, training and performance.

⁴⁹ OECD/IDB, 2014, Government at a Glance: Latin America and the Caribbean 2014: Towards Innovative Public Financial Management, OECD Publishing.

⁵⁰ OECD, 2011 and CIDE, 2003.

rates and the number of applicants per position. The attractiveness of SPC positions, as measured by the number of applicants per position, increased between 2011 and 2013, then decreased in 2014. In 2011, there were an average of 63 applicants per open-competition position. The number of applicants rose to 85 in 2013 before falling to 73 in 2014.⁵¹ Tracking these trends in the future will help to determine whether the attractiveness of SPC positions continues to decline. Annual departures from the SPC increased from 2,436 in 2010 to 4,654 in 2013 then moderated to 3,537 in 2014, though this figure is still quite high, representing over 12 percent of total public servants in the SPC.⁵² Between 2004 and 2014 the three ranks with the largest number of departures were sub-director (6,364), department head (5,919) and liaison officer (*enlace*-5,756). However, these numbers should be interpreted with caution, as this includes all types of separations, including voluntary separation (*renuncia*) and retirement. Further analysis will be necessary to understand the factors driving voluntary departures from the SPC, including the adequacy of pay.

Transparency of Pay

63. **In recent years the government has made impressive efforts to improve the availability of public information on public sector compensation.** Article 7 of the Federal Law of Transparency and Access to Public Government Information⁵³ stipulates that APF institutions must make the following information available to the public: details of their organizational structure, a directory of public servants from the level of Head of Department or equivalent, monthly compensation levels by position and the structure of compensation. Article 19, Section 5 of the Federal Budget also requires federal spending agencies to publish pay scales and compensation details for public servants, including the fixed and variable elements of total pay, on their respective transparency portals and in the public accounts.⁵⁴

64. **Nevertheless, the limited accessibility and comparability of public payroll information continue to present significant analytical obstacles.** Compensation data are currently available via each institution's online transparency portal, but there is no central database through which to analyze compensation at different levels of aggregation, and it is difficult to interpret the information without a detailed understanding of Mexico's compensation structure. Information on total gross payment (*monto total de percepciones brutas*), which consists of both base salaries and guaranteed compensation, is available online; however, this is not equivalent to total permanent salary (*percepción ordinarias*) as it excludes employee benefits. Furthermore, while information on the types of benefits applicable to employees is available, the monetary value of each benefit is not.⁵⁵ Publishing the monetary value would help improve the public's understanding of the total permanent payments received by public servants.

65. **The end-of-year payment (*gratificación de fin de año*), which is equal to 40 days of guaranteed compensation, is distributed in November of each year subject to a federal executive decree.**⁵⁶ It is detailed in one line in the *cuenta pública*, together with the Christmas payment (*aguinaldo*), which is equivalent to 40 days of base salary compensation. The government publishes the total amount it spends on end-of-year payments, but not how these bonuses are distributed among public servants.

66. **The number of pay scales in the APF significantly complicates any attempt to analyze pay across the public sector.** Over the last decade the government has gradually reduced the number of pay

⁵¹ RHNet, corte al 31 de Diciembre de 2014, fecha de lectura 04 Feb 2015

⁵² Ibid.

⁵³ Ley Federal de Transparencia y Acceso a la Información Pública Gubernamental, published in the Diario Oficial of the Federation, June 11 2002 (the last reform was published July 14, 2014)

⁵⁴ Article 19, Presupuesto de Egresos de la Federación para el Ejercicio Fiscal 2015. Accessed here: http://www.diputados.gob.mx/LeyesBiblio/pdf/PEF_2015.pdf

⁵⁵ This is also the case for economic benefits (*prestaciones economicas*), social security benefits (*prestaciones de seguridad social*), and other benefits.

⁵⁶ "Decreto que establece las disposiciones para el otorgamiento de aguinaldo o gratificación de fin de año, correspondiente al ejercicio fiscal de 2014." Diario Oficial de la Federación, October, 11 2014.

scales and limited institutional exceptions to conforming to the central pay scale. All new institutions, for example, must adopt the central pay scale. Nevertheless, efforts to further reduce institutional exceptions and centralize existing pay scales would help improve oversight and accountability of public wage policies.

67. **Over the last few years a number of initiatives have sought to harmonize compensation policies across the federal, state and municipal levels, but have not yet been implemented (Box 5.2).** Most of these initiatives aim to harmonize salary scales and remuneration policies across all levels of government. Reforms have sought to limit the discretionary capacity to provide allowances, bonuses and pensions to public servants; restrict the creation of new positions; and reduce overall compensation levels for public employees, including those in the judiciary, security services and the broader parastatal sector.

Box 5.2: Recent Initiatives to Harmonize Compensation Policies Across Government

Amid increased public scrutiny of public compensation practices, several proposals have been introduced for a remuneration law covering all public employees at the federal, state and municipal level to address wage setting practices. The Senate and Chamber of Deputies are currently considering bills to harmonize compensation policies at the national level. A number of parliamentary groups have presented different versions of this bill, including the *Partido de la Revolución Democrática* (PRD) in 2010, 2013 and 2015, the *Partido Acción Nacional* (PAN) in 2010, 2011 and 2013, and the *Movimiento Ciudadano* (MC) in 2012 and 2013.

The proposed initiatives build upon the constitutional reform of 2009 and aim to establish limits on public servant wages and improve the transparency of public sector compensation in the budget. Since the regulations meant to accompany the 2009 constitutional reform were only partially implemented, several proposals have called for replacing the current Manual of Payments with a Manual of Compensation, which would more fully detail public servant remuneration. The proposals also seek to create a Committee of Experts on Remuneration, which would be responsible for establishing, monitoring and analyzing compensation practices on an annual basis. In addition, members of several parliamentary groups have at different times introduced initiatives to ask citizens if they would agree to a reduction in the salaries of the President of the Republic and other senior officials.

Source: Senate and Congress Gazettes and interviews with SFP, SHCP and CIDE.

68. **It is not possible to compare public accounts data on actual compensation with budgeted estimates by position.** Most information on the actual compensation of public servants is currently available via each entity's online transparency portal; the APF does not have a central payroll database. This has resulted in highly dispersed payroll information that are not easily aggregated. As a result, it takes two months for the SHCP to normalize the payroll. Payroll payments were similarly decentralized until 2008; since that time most payroll payments have been done through the Treasury Single Account—a significant advancement.

69. **The SHCP is in the process of developing a centralized payroll system, but this will take time given the complexity of Mexico's compensation structures and existing processes.** The SHCP anticipates introducing the new system in the next few years. The first phase will require establishing a platform to obtain the total cost (*costo unitario*) by position. The next stage will involve linking this information with the payroll system so that it can be centralized. This will entail close coordination between the SFP and SHCP to ensure that the single registry of federal public servants is linked with the new system, and with the line ministries to ensure smooth implementation of the system.

CONCLUSIONS AND RECOMMENDATIONS

70. **While the overall growth of the federal government wage bill has been moderate, a disaggregated analysis reveals a number of underlying issues that need to be addressed to ensure that the federal public administration is able to attract and retain qualified staff in the right positions.** The policy recommendations described below are designed to rationalize wage bill controls, improve the productivity of the workforce, and importantly, increase transparency and accountability in the use of public resources.

71. **Anticipating declining revenues, the SHCP recently announced that spending in the APF would be cut by MXN 124.3 billion, or about 0.7 percent of GDP.** This will entail an MXN 52 billion reduction in the federal budget, of which MXN 34.6 billion will come from current expenditures.⁵⁷ Given the large share of wages and salaries in total expenditures, short-term freezes and other wage-reduction policies are expected, and the 2015 budget calls for a 10 percent reduction in expenditures on civil service salaries for middle and senior management (*mandos medios y superiores*), as well as a 10 percent reduction in temporary and fee-based positions.⁵⁸ SHCP projects that personnel expenditures will decline from 6 percent of total spending in 2015 to 5.3 percent by 2020.⁵⁹

72. **At present the moderate growth of Mexico's federal wage bill does not appear to warrant more austere short-term measures.** Recent efforts to freeze salary levels appear to have had the perverse effect of distorting compensation levels both between positions in the central pay scale (particularly *operativo* and *enlace* positions) and between similar positions in different institutions of the APF, with central institutions enduring the brunt of cuts to federal permanent compensation.

73. **In the event of a budget crunch a number of short-term measures could be used to limit the growth of the wage bill, including salary freezes, reductions in employment levels or cuts to wages and allowances.** The choice of which measure, or combination of measures, to employ would depend on the level and severity of any prospective fiscal adjustment. Several such measures have already been introduced at the federal level in recent years, including reductions in real wages. Though they may be effective in curbing the wage bill, these policies can also lock-in pay distortions (as discussed previously) and may negatively affect staff morale and service delivery. Going forward, it will be critical to ensure that any attempt to contain the wage bill does not further distort the equity of pay in the APF across types of institutions and between pay grades. Effective wage bill management will not be achieved through short-term measures in response to fiscal crises, but through medium- and long-term measures that address underlying structural concerns.

Box 5.3: Containing the Wage Bill: Lessons from International Experience⁶⁰

- **Retaining savings from vacant positions.** Some countries allocate the full budget amount for approved staff positions to line ministries at the beginning of the year. If the average vacancy rate in these ministries is, say, 10 percent over the course of the fiscal year, then the ministry can save 10 percent of its wage bill without any reduction in staffing. These ministries retain the salaries for vacant positions and are able to reallocate these funds as salary bonuses for staff members.
- **Furloughs.** Some countries have used forced leave without pay to temporarily reduce wage costs. This is typically employed as a one-off measure in response to budgetary crises, but it may be repeated in future years

⁵⁷ SHCP, *Comunicado de Prensa*, “La SHCP Anuncia Medidas de Responsabilidad Fiscal para Mantener la Estabilidad” 30 January 2015

⁵⁸ SHCP, 2015

⁵⁹ Criterios Generales de Política Económica para la Iniciativa de Ley de Ingresos y el Proyecto de Presupuesto de Egresos de la Federación Correspondientes al Ejercicio Fiscal, 2015. p. 170.

⁶⁰ Dorotinsky, Manning, and Rinne, 2009

if spending pressures remain a problem. However, furloughs are often very unpopular and may provoke dissatisfaction among public sector workers and the public.

- **Contracting or outsourcing.** In some cases, contracting out certain government functions to the private sector may reduce the wage bill. Examples include municipal utilities and public health services. However, costs and benefits must be carefully weighed, as outsourcing can introduce its own distortions and inefficiencies. Some countries have increased the use of short- or long-term contract employees as an alternative to permanent staff. Contract workers can typically be fired more easily and at a lower cost, but the excessive use of contract workers can lead to dual personnel systems that pose their own unique management challenges.
- **Reducing the compensation of current employees.** Reducing the wages and benefits of public sector employees is always difficult, and in some cases it may be legally prohibited. However, certain countries have cut the remuneration of current employees in order to reduce the wage bill.
- **Downsizing and voluntary retirement.** Large-scale downsizing in the public sector has a relatively poor track record, and many countries legally mandate severance payments, which can make downsizing costly in the short run. In many cases it may take up to two years or more before the net savings of formal downsizing exceed the immediate costs. Voluntary retirement programs can speed downsizing through attrition, and depending on their design they may entail a lower cost than downsizing. Under normal circumstance attrition typically occurs at a rate of about 3-5 percent per year.
- **Consolidating administrative functions.** Identifying common administrative tasks across agencies or ministries and consolidating these functions in central services units can reduce personnel costs. In 2008 Finland began implementing an administrative consolidation program, creating single government-wide service units for human resources and procurement, as well as other areas of the public administration.
- **Modernizing public sector functions.** Automating public financial management and other public sector functions has changed the composition of personnel and in some cases reduced overall staffing requirements. Similar approaches in other sectors could reduce personnel needs and thereby limit wage bill growth, although reengineering business processes and reallocating staff would likely require significant investment.
- **Freezing recruitment.** Hiring freezes can create problematic vacancies and may be challenging from a public relations perspective. In some cases, a partial freeze might be more practical. For example, in the 1990s the US implemented a partial hiring freeze, filling two out of every five vacant posts in the federal government.
- **Retirement of overage staff members.** While this may have some impact on service delivery, it is likely to be minimal.
- **Reviewing and rationalizing allowances.** Efforts to reform allowances, bonuses, social security contributions and other forms of nonwage compensation can yield important savings in countries where allowances account for a significant share of total remuneration.

74. **One aspect of the federal wage bill that merits particular attention is the use of temporary (*eventual*) personnel.** Some ministries appear to be overusing temporary personnel in order to fill skills gaps. At present each spending agency can hire *eventuales* with the approval of the SHCP, which reviews hiring requests to ensure there is no duplication of functions. This step is more of a formality rather than an in-depth review. Once approved, individual ministries have substantial discretion over the hiring process. In the short term, placing more controls on the temporary personnel budget—particularly for institutions that exceed their approved budget—would be a positive step. The SHCP should review requests to ensure that the functions these staff are performing are indeed temporary, and in certain cases it should consider the establishment of permanent positions or substituting fee-based workers (*honorarios*) for *eventuales*. In the medium term, introducing stricter standards into the hiring process for *eventuales* would help ensure adherence to merit-based principles. Moreover, improving the transparency of *eventuales* expenditures in the budget would allow for a more precise analysis of approved versus executed expenditures for *eventuales* positions.

75. **To maintain the quality of the SPC it will be important to ensure that the rules of incorporation and merit-based recruitment are applied consistently.** In similar senior executive services (e.g. Chile and Canada), an independent recruitment process conducted through panels, selection committees and supervisory bodies is designed to establish a clear and transparent standard of competency. It is important to note that this does not imply that there is no political involvement in appointments. However, the primary political objective is to ensure that the civil service is responsive to changes in policy priorities, which inevitably creates pressure for a political role in senior staff appointments.⁶¹ Clarifying the terms and conditions for the use of Article 34 could facilitate the achievement of an adequate balance. This could be accomplished by establishing annual caps on the percentage of recruitments using Article 34 and/or by revising Article 34 to more clearly define extraordinary circumstances.

76. **The Senior Executive Service (SES) in the US provides an example of how these concerns can be effectively managed.** The US senior executive service has two types of positions. Career Reserved positions are designed “to ensure impartiality, or public confidence in the impartiality, of government.” These positions can only be filled by career appointees. General positions may be filled by any type of SES appointee—career, non-career, limited term or limited emergency. Non-career appointments may be made only to general positions and cannot exceed 25 percent of the agency’s SES positions. In the government as a whole, only 10 percent of SES positions may be filled by non-career appointees.⁶²

77. **Ensuring that the federal workforce has the right mix of skills and qualifications to execute the tasks and functions assigned to federal institutions should be a guiding principal of public administration.** The current balance of the federal workforce is skewed toward administrative (*operativo*) staff. In the short term, reintroducing the voluntary retirement program for administrative staff would accelerate attrition and create space for new positions designed to address identified skill gaps. A similar program was introduced in the US, which allowed individual agencies to opt into the voluntary retirement program when undergoing a substantial reorganization (Box 5.4). In the medium term, a concerted effort to professionalize higher administrative levels and create incentives for career progression would help smooth distortions in the allocation of staff. This would require a more complete review of the incentives to move from senior-level *operativo* staff into *enlace* or *mando medio* positions, both from a contractual point of view and in terms of work hours and salary.

⁶¹ Lafuente, Mariano, Nick Manning, and Joanna Watkins, 2012 “International Experiences with SES Cadres,” GET Note Frequently Asked Questions Series, World Bank.

⁶² *Ibid.*

Box 5.4: US Voluntary Early Retirement Authority

The US Voluntary Early Retirement Authority (VERA), under the Office of Personnel Management (OPM), allows agencies that are undergoing substantial reorganization to temporarily lower the age and service requirements in order to increase the number of employees who are eligible for retirement. The authority encourages more voluntary separations and helps the agency complete needed organizational changes with minimal disruption to the work force.

Voluntary Early Retirement offers apply to employees covered under both the Civil Service Retirement System and the Federal Employees Retirement System. When an agency has received VERA approval from OPM, an employee who meets the following general eligibility requirements may be authorized to retire early: the employee must meet the minimum age and service requirements: (i) at least 50 years old with at least 20 years of creditable federal service experience, or any age with at least 25 years of creditable federal service experience; (ii) must have served in a position covered by the OPM authorization for the minimum time specified by OPM (usually 30 days prior to the date of the agency request); (iii) must serve in a position covered by the agency's VERA plan; and (iv) must separate by the close of the early-out period.

Source: Voluntary Early Retirement Authority (VERA).

78. **The SHCP should consider issuing periodic analytical reports analyzing wage bill expenditures at the aggregate and disaggregated levels to facilitate improved decision-making.** The lack of comprehensive data sources on civil servant remuneration and the diffusion of salary data across multiple sources is a major analytical constraint. Reports should draw on payroll data and employee registries, rather than relying solely on budget execution data. At present, summary analysis and personnel spending projections are included in the General Guidelines for Economic Policy (*Criterios General de Política Económica*⁶³) and the SHCP's quarterly reports of public finance (*Informe Trimestral de Finanzas Públicas*, ITFP), which includes expenditures in personnel services by function for the APF. A somewhat more detailed but still incomplete analysis of civil servant remuneration and employment figures is presented in the Annex of the ITFP.

79. **According to article 19 of the PEF, the APF must report on civil service pay scales and payments to public servants.** The SHCP does provide the formal framework for civil service compensation, but it does not publish a detailed report on actual executed expenditures. In light of the budgetary importance of the wage bill, more detailed reports would be an important step in facilitating decision-making and transparency. A detailed report could encompass a range of key indicators, including not only employment and compensation figures for the APF, but also the share of federal government employment in the total labor force, the number of vacancies, and the age structure of the public workforce. The report could also include executed spending on permanent salaries, and temporary and fee-based workers to shed light on actual salaries across functions. These reports could strengthen decision-making and the management of the federal public workforce, while also improving public perceptions of compensation practices in the public sector.

80. **Establishing a centralized payroll system would greatly improve the timeliness and reliability of information on personnel spending and clarify actual total remuneration for each position.** This system would facilitate the reconciliation of payroll information by individual spending agencies and the preparation of corresponding reports. Initial steps have been taken to determine the total cost (*costo*

⁶³ See *Perspectivas de Finanzas Públicas 2016-2020*. "In the government projection for 2015-2020 the public expenditure allocated to *servicios personales* will grow at annual real rate of 2.4 percent." "Criterios General de Política Económica para la Iniciativa de Ley de Ingresos y el Proyecto de Presupuesto de Egresos de la Federación Correspondientes al Ejercicio Fiscal," 2015.

unitario) of each position in the APF. As this process moves forward, the SHCP and SFP should work together to ensure that payroll information is also tied to the RUSP.

81. **Ensuring that pay scales follow a logical progression may require revisions and adjustments, particularly to *enlace* positions, as well as to upper *mando medio* and lower *mando superior* positions.** Pay scales should provide greater compensation to positions of greater responsibility, and they should provide incentives for qualified and experienced staff to advance to higher levels. At present, unionized personnel at the top of their respective pay scales often come close to or even exceed the remuneration of more senior *enlace* positions, which require higher levels of education and more advanced credentials. There are several options for dealing with this distortion, including adding more *enlace* levels, raising parts of the pay scale to create a more equitable gradation between levels, and incentivizing suitably qualified and experienced staff to take on greater responsibility. Moreover, the considerable overlap in salaries for positions with different levels of responsibility in upper *mando medio* (L and K) and lower *mando superior* (J and I) merits further study.

82. **The continued expansion of the central pay scales would help promote equal pay for comparable positions across the APF.** Exceptions to the central pay scales based on historical considerations have created large distortions in compensation across different types of institutions within the APF. Compression ratios, which compare earnings at the top and bottom of the APF, have fallen since 2010, but significant inequities in pay across government sectors and institutions persist due to the application of multiple pay scales. The example of Latvia's expansion of unified remuneration principles in response to the 2008 financial crisis may be instructive in this respect (Box 5.5).

Box 5.5: Expanding the Coverage of Pay Scales in Latvia

The recent financial crisis prompted the Latvian government to expand coverage of unified remuneration principles first introduced in the central government in 2007 to reduce pay differentials among government bodies and improve wage bill management. The 2007 Law On Compensation of Officials and Employees of State and Local Government Institutions, which came into force in January 2009, extended the grading system to all public administration institutions, including most independent agencies.

The grading system comprises 16 vertical grades (monthly salary groups) based on 43 families, each divided into levels of responsibility. Each vertical grade is divided into 6 horizontal qualification grades. The vertical grade determines 67 percent of salary. The horizontal grade accounts for 33 percent of salary and is defined based on length of service (10 percent) and the employee's performance appraisal rating (23 percent).

Source: World Bank, "Latvia: From Exuberance to Prudence A Public Expenditure Review of Government Administration and the Social Sectors (2010). Report No. 56747-LV

83. **In recent years the government has made impressive progress in expanding access to information on public sector compensation, but additional efforts are needed to make this information more understandable.** Much of the information is highly disaggregated and difficult to interpret without a detailed understanding of the composition of remuneration. Publishing a user-friendly methodological guide to accompany *Tomo VIII* would facilitate external analysis. Spending agencies should also be requested to publish their actual spending on permanent payments (*percepcion ordinaria*) and extraordinary payments (*perception extraordinaria*) for public employees by position on their transparency portals at the end of each year. At present, only a portion of the total salary data is published online. Additionally, the SHCP could aggregate actual spending on permanent payments by different ministries and present a consolidated report that would enable comparisons between actual compensation and budget forecasts by position. However, this should be done with the understanding that it would only be a temporary measure until a centralized payroll is in place.

84. **Finally, a thorough review of total compensation will be necessary in order to accurately gauge the competitiveness of salaries across the APF.** A number of countries conduct annual benchmarking exercises designed to better align public sector pay with the private sector. Such a process helps ensure that public sector salaries and benefits are not inflated and account for the additional nonmonetary advantages associated with working in the public sector. The government should also establish explicit objectives for establishing and maintaining competitive compensation.

85. **Successful reform efforts will require a long-term strategic vision for the public service that can be operationalized in a progressive series of policy measures.** Accurate and comprehensive information will be essential to the successful management of the wage bill. Appropriate public sector remuneration policies will motivate staff to perform more effectively, improve the quality of the personnel attracted and retained by the public administration, and strengthen service delivery throughout the public sector. Such efforts can, moreover, substantially improve perceptions of the public service.

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- Acuerdo por el que se Expide el Manual de Percepciones de los Servidores Públicos de las Dependencias y Entidades de la Administración Pública Federal
- Disposiciones en las Materias de Recursos Humanos y del Servicio Profesional de Carrera, así como el Manual Administrativo de Aplicación General en Materia de Recursos Humanos y Organización y el Manual del Servicio Profesional de Carrera
- Reglamento Interior de la Secretaría de la Función Pública
- Ley del Servicio Profesional de Carrera en la Administración Pública Federal
- Reglamento de la Ley del Servicio Profesional de Carrera en la Administración Pública Federal
- Ley Orgánica de la Administración Pública Federal
- Ley Federal de Transparencia y Acceso a la Información Pública Gubernamental
- Ley de Coordinación Fiscal
- Ley Federal de los Trabajadores al Servicio del Estado, Reglamentaria del Apartado B del Artículo 123 Constitucional.
- Ley Federal del Trabajo

MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 6: Health



This chapter was prepared by María Eugenia Bonilla and Agustina Suaya, with support from Claudia Macias.

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EXECUTIVE SUMMARY

While health outcomes in Mexico have improved significantly over the past several decades, they remain lower than those of comparable countries in Latin America and far below OECD averages. Health spending as a share of GDP and healthcare utilization rates reveal similar patterns. Both have grown rapidly in recent years, yet they remain relatively low by Latin American standards and are well below average for the OECD. Private health spending represents about half of total healthcare expenditures, and most private spending is out-of-pocket, which has deeply negative equity and efficiency implications.

Mexico's healthcare system currently faces a number of important challenges, and developments in the health sector will have significant ramifications for public expenditures as a whole. The expansion of *Seguro Popular* has been a major driver of expenditure growth, but the program's short-term trajectory is likely to be moderate, as it is nearing its target of universal coverage. However, exogenous factors such as the aging of the population, the advent of new medical technologies and, relatedly, the rising incidence of non-communicable diseases, are generating a structural increase in long-term healthcare costs.

The rising secular trend in healthcare spending is partially a reflection of Mexico's previous healthcare achievements. Communicable diseases have devastating effects in developing countries; but many can be relatively inexpensive to prevent and treat if a sound healthcare infrastructure is established. However, once the deadliest communicable diseases have been brought under control, non-communicable diseases become increasingly common. The latter often require continuous contact with the health system over long periods, and costly management and treatment can have a large financial impact on families and health systems. Technological advancements offer new treatment options that improve outcomes, but these typically come at an extremely high cost, and extending average life expectancy inevitably increases the overall financial burden of the healthcare system. Finally, economic development tends to boost demand for more and higher quality healthcare services, both privately and publicly financed.

Distributive equity across states, income levels and different health insurance schemes has improved steadily over time. However, significant differences in per-beneficiary spending persist between healthcare schemes. Moreover, the structure of public health expenditures varies substantially among healthcare institutions. This is particularly true of personnel spending, as widely different benefits accrue to personnel in each institution, and nonwage benefits often represent the dominant share of total compensation. These issues are analyzed in detail in Chapter 6.

Main Messages

The health sector's resource envelope is limited; rising expenditure pressures in the healthcare system are being compounded by similar trends in other sectors and aggregate revenues are declining. In this context, policymakers must exploit all available opportunities to increase the efficiency, equity and impact of public health spending. Coordinating and consolidating as much as possible the country's numerous fragmented health programs, leveraging economies of scale in procurement, and creating a unique roster of beneficiaries would help to maximize the value of the health sector's resources.

Reorganizing the Mexican healthcare system to meet its emerging challenges will be a difficult long-term process. However, there are a number of short-term steps that would both improve performance and lower marginal costs. Harmonizing information systems and quality assurance mechanisms would help establish a strong analytical foundation for monitoring improvements in the health sector. Standardizing clinical-coding and cost-accounting systems, linking the different electronic information systems, and establishing a reliable quality-control oversight mechanism would ensure that adequately comprehensive and comparable data are available to serve as a basis for sound policy decisions.

Conclusions and Recommendations

Improved investment coordination could increase the efficiency of the capital budget. Some coordination tools have already been developed, such as the Master Plan for Infrastructure, which is helping avoid redundancies in the health service network. Further efforts should expand planning coordination and ensure adherence to the Master Plan, which thus far has been uneven.

The consolidated procurement of pharmaceuticals would reduce marginal costs in one of the fastest-growing expenditure categories. In the short term, the authorities should strengthen existing expenditure controls. Over the longer term, expanding participation in the consolidated procurement process would help to manage the rising cost of pharmaceuticals, as well as medical supplies, equipment and other inputs. The government should also review the public-private partnership agreements that certain states have established for the procurement and distribution of pharmaceuticals. Successful partnerships could serve as models for other states, while less efficient agreements could be modified, cancelled or allowed to expire.

Arrangements enabling the exchange of services across health insurance schemes could greatly increase the value of healthcare facilities, equipment and other assets. The first national-level exchange-of-service arrangement was developed for emergency obstetric care. Under it, any Mexican women could receive emergency obstetric care in any public health facility regardless of her health insurance affiliation. The Ministry of Health is currently piloting a more ambitious version of this program that would encompass all forms of maternal care. Lessons learned from this pilot program may provide important insights to guide the further integration of the healthcare system.

Establishing a single, unique roster of beneficiaries would improve efficiency by identifying overlapping recipients and avoiding double payments to providers. The General Directorate of Health Information at the Ministry of Health is currently attempting to construct a unique roster of beneficiaries by consolidating and cross-referencing the different rosters used by various health insurance schemes, including *Seguro Popular*. The completion of the unique roster will help eliminate duplications and inconsistencies.

There is a great deal of heterogeneity in the quality of healthcare services in Mexico. Harmonizing performance indicators, and strengthening supervision and monitoring systems would improve the overall quality of care, increase the equity of healthcare spending, and could potentially increase efficiency through more effective disease prevention and early detection. A thorough evaluation of healthcare quality would enable policymakers to scale up methods employed by the sector's best performers, particularly those that are most effective in treating non-communicable diseases and managing other emerging public health priorities.

INTRODUCTION

1. **This chapter examines the evolution of health spending in Mexico since the creation of *Seguro Popular*.** It examines the efficiency, equity and impact of Mexico's public spending on health by assessing the country's health sector against those of comparable countries in the Latin America and the Caribbean (LAC) region and the Organization for Economic Co-operation and Development (OECD).
2. **This chapter also provides an overview of health indicators and healthcare utilization dynamics in Mexico and evaluates current trends in light of the country's ongoing demographic, epidemiological and nutritional transitions.** It describes how the healthcare system is organized and functions, including its different insurance schemes and provider networks. The chapter's primary objective is to analyze the efficiency and equity of health spending and determine the policy implications of the health system's structure. The chapter concludes by summarizing the findings of the analysis and presenting options for policymakers.
3. **The chapter draws on a number of data sources.** These include the National Health Information System (*Sistema Nacional de Información de Salud*, SINAIS) of the General Directorate of Health Information (*Dirección General de Información en Salud*, DGIS), the Federal Budget (*Presupuesto de Egresos de la Federación*, PEF), national household income and expenditure surveys, and financial, administrative and procurement data from various health agencies. The chapter also builds upon prior analyses of health expenditures by government agencies, policy centers, universities and the World Bank.

Health Outcomes

4. **Health outcomes in Mexico have improved substantially in recent decades.** Infant and under-five mortality rates have decreased significantly, and the country is on track to achieve its Millennium Development Goal (MDG) for under-five mortality. In 2012 the infant mortality rate was estimated at 13.1 deaths per 1,000 live births, while the under-five mortality rate was estimated at 15.3.¹

¹ Mexico, Gobierno de la República. 2013. Los Objetivos de Desarrollo del Milenio. Informe de Avances 2013.

Table 6.1: Health Outcomes in LAC Countries with per Capita GDP above US\$5000, 2012

Country	Life Expectancy at Birth	Mortality Rate, under-5	Mortality Rate, infant	GDP per Capita (constant 2005 US\$)
St. Vincent and the Grenadines	72.4	19.5	17.7	5422.1
St. Lucia	74.7	14.9	13.1	5720.2
Costa Rica	79.7	9.8	8.6	5720.5
Brazil	73.6	14.5	12.9	5730.2
Latin America & Caribbean	74.6	18.8	15.8	6010.1
Grenada	72.6	12.2	11.0	6274.3
Venezuela, RB	74.5	15.3	13.2	6412.0
Panama	77.4	18.5	15.9	7259.7
Uruguay	76.9	11.6	10.0	7505.8
Mexico	77.1	15.3	13.1	8532.3
Chile	79.6	8.4	7.2	9430.5
Antigua and Barbuda	75.7	9.6	8.0	11607.7
Trinidad and Tobago	69.8	21.9	19.6	14183.1
Barbados	75.1	14.6	13.5	14349.6
Bahamas, The	74.9	13.3	10.7	20909.3
Argentina	76.0	13.7	12.3	N/A

Source: World Bank Data

5. **Despite these improvements infant, child and maternal mortality rates in Mexico remain higher than those of its comparators.** Mexico's infant and under-five mortality rates are below the LAC averages of 15.8 and 18.8 deaths per 1,000 live births, respectively, but almost twice as high as the OECD averages of 6.5 and 7.8.² Mexico also has higher infant and under-five mortality rates than countries with similar income levels such as Chile, Argentina, Uruguay, Brazil and Costa Rica (**Error! Reference source not found.**). Mexico has made significant progress in reducing maternal mortality; between 1990 and 2010 Mexico's maternal mortality rate declined by 45 percent, and by 2010 it reached 50 deaths per 100,000 live births, below the LAC average, but higher than other OECD countries. Mexico performed better on maternal mortality than some LAC countries, such as Argentina and Brazil, but worse than others, such as Uruguay, Chile and Costa Rica. Despite its recent progress Mexico is unlikely to reach its MDG target for maternal mortality.³

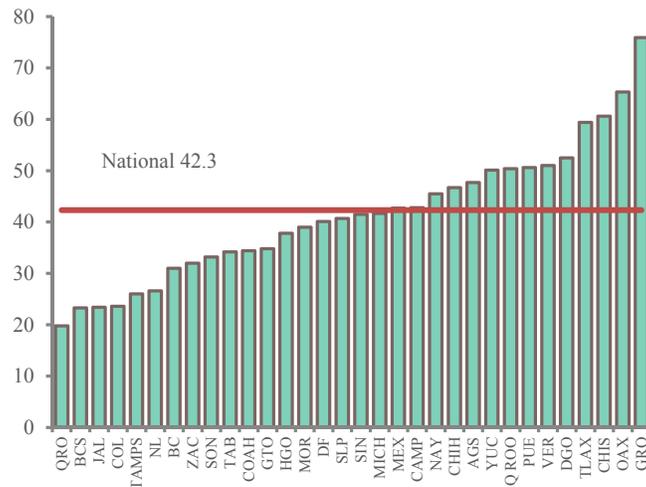
6. **Average health outcomes mask large inequalities across states and socioeconomic levels.** For instance, maternal mortality in Guerrero State, where 70 percent of the population is classified as poor,⁴ is almost twice the national average and about four times the rate for Queretaro State, where 37 percent of the population is poor (**Error! Reference source not found.**).

² World Bank Development Data Platform, consulted on December 12, 2012.

³ World Health Organization, United Nations Population Fund, and the World Bank on Maternal Mortality Estimates for 2010 and OECD data.

⁴ CONEVAL, 2012 <http://www.coneval.gob.mx/medicion/Paginas/medici%C3%B3n/Pobreza%202012/Pobreza-2012.aspx>

Figure 6.1: Maternal Mortality Rates by State, 2012



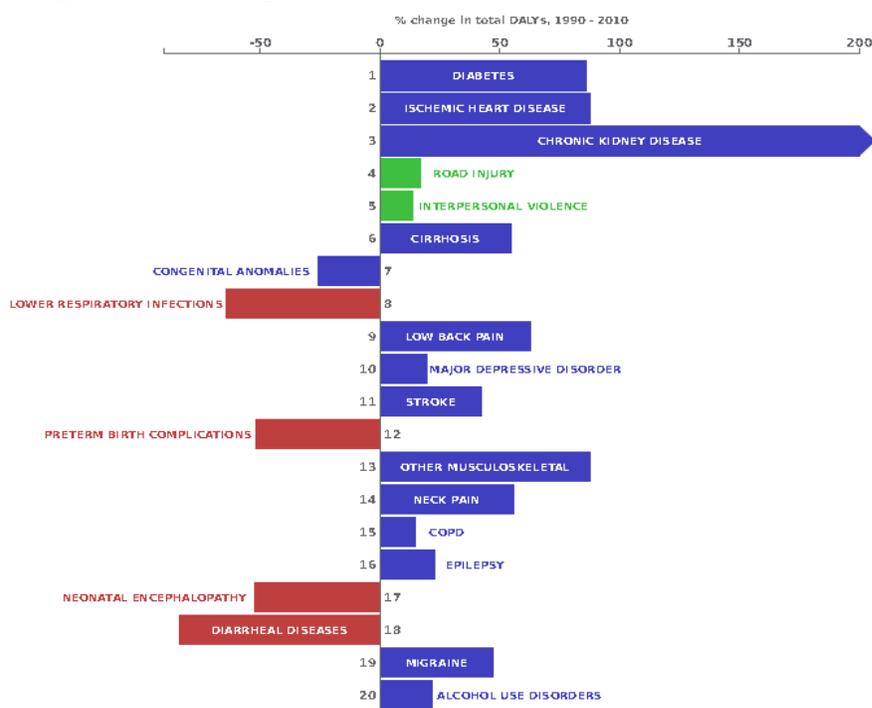
Source: INEGI. Millennium Development Goals

7. **Mexico is facing a rapid demographic and epidemiological transition.** Reductions in maternal and child mortality rates, progress in controlling communicable diseases and advances in medical technology increased Mexico’s average life expectancy by 17 years between 1960 and 2012. Consequently, the number of Mexicans over age 60 doubled between 1990 and 2012 and is expected to triple between 2012 and 2050, reaching about 31 million people.⁵

8. **As the population ages non-communicable diseases (NCDs) such as diabetes, cardiovascular disease and cancer are becoming increasingly common.** Diabetes, ischemic heart disease and chronic kidney disease are the three leading causes of disability-adjusted life years lost (DALYs) in Mexico. These three diseases, along with other musculoskeletal conditions, account for the largest increase in mortality and morbidity, measured in DALYs, between 1990 and 2010 (Figure 6.2).

⁵ CONAPO, *Proyección de la Población 2010-2050*, <http://www.conapo.gob.mx/es/CONAPO/Proyecciones>

Figure 6.2: Leading Causes of DALYs in Mexico, 1990-2010



Source: Institute for Health Metrics and Evaluation, Human Development Network, The World Bank. *The Global Burden of Disease: Generating Evidence, Guiding Policy – Latin America and Caribbean Regional Edition*. Seattle, WA: IHME, 2013.

9. **The country is also experiencing an abrupt shift in nutritional patterns.** Rapid dietary changes have resulted in a large and rising incidence of obesity. According to Mexico’s 2012 National Survey of Health and Nutrition (*Encuesta Nacional de Salud y Nutrición, ENSANUT*) almost 40 percent of adult women and 27 percent of adult men are obese. Mexico has the second largest obesity rate among adults in OECD countries.⁶ Children and adolescents are also affected by changing nutritional patterns; 12 percent of girls and 10 percent of boys 6 to 11 are obese. Obesity is a major cause of certain chronic conditions such as diabetes, Mexico’s leading cause of DALYs.

Healthcare Utilization Rates and Equity

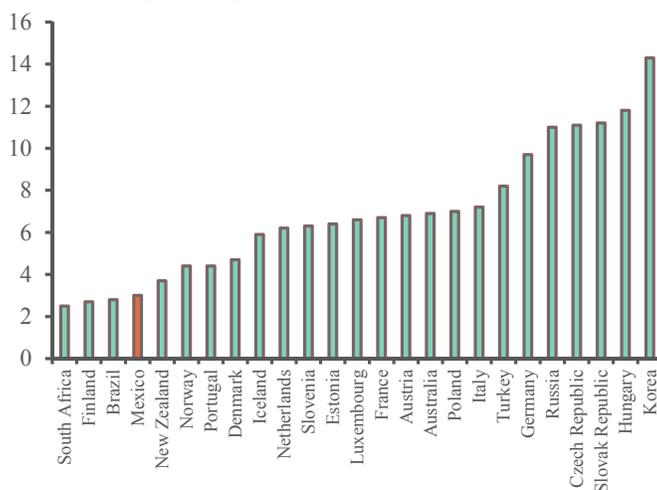
10. **Healthcare utilization rates in Mexico are low compared with other countries in the region, both for outpatient and inpatient care.** Only 16 percent of Mexicans report using outpatient health services, compared with 51 percent in Argentina, 27 percent in Brazil, 15 percent in Guatemala and 14 percent in Chile.⁷ Similarly, doctor consultations per capita (a subset of outpatient consultations) in Mexico are lower than any other OECD member country with the exception of Finland (Figure 6.3). Five percent of the population reports using inpatient health services, placing Mexico at the low end of the LAC range, which runs from 4 percent in Jamaica to 8 percent in Argentina, Brazil and Colombia.⁸ Wealthier respondents reported higher healthcare utilization rates than their poorer counterparts (Figure 6.4).

⁶ OECD Health Statistics, 2014.

⁷ Dmytraczenko, Tania, and Gisele Almeida, eds., 2015

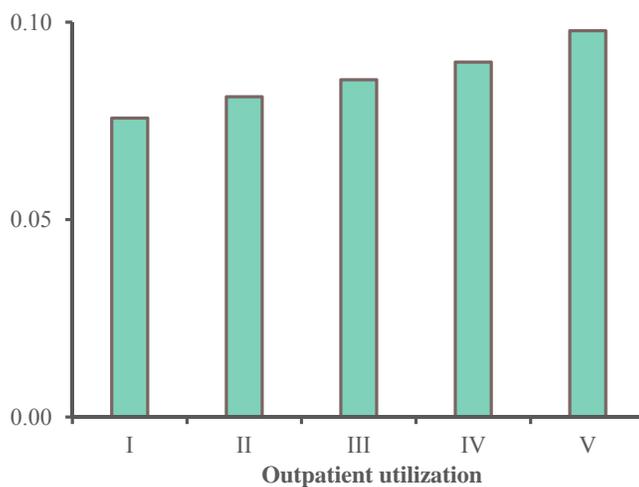
⁸ *Ibid.*

Figure 6.3: Doctor Consultations per Capita, OECD Countries and South Africa and Brazil, 2012



Source: OECD, 2015

Figure 6.4: Outpatient Care Utilization in the Last Two Weeks, 2012



Source: World Bank – PAHO using ENSANUT, 2012

The Structure of the Healthcare System

11. **The Mexican health sector comprises three major sub-systems: social security⁹, the Social Protection System in Health (*Sistema de Protección Social en Salud, SPSS*), and the private sub-system.** Social security schemes are compulsory for formal salaried workers, and different schemes cover different types of employment. The largest social security schemes are the Mexican Institute of Social Security (*Instituto Mexicano del Seguro Social, IMSS*), which insures about 58 million people,¹⁰ and the Institute of Social Security and Services for Government Workers (*Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE*), which provides a similar package of services to 12.4 million federal and state government employees (Figure 6.5). IMSS and ISSSTE are funded by payroll

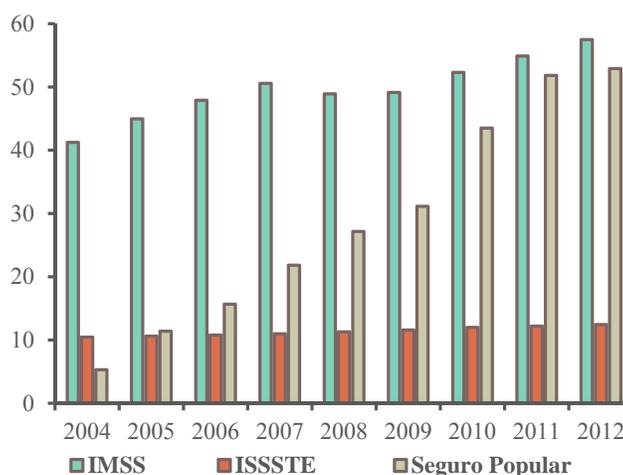
⁹ Throughout this chapter we refer to the contributory health insurance offered by the different social security schemes as Social Security. These institutes however offer a larger number of services, including pensions.

¹⁰ This is an estimation based on the number of people paying contributions (22.5 million) and pensioners (3 million) multiplied by a dependents ratio.

contributions from the federal government, employers and employees, plus a state subsidy. Some government agencies and state-owned enterprises operate their own schemes, including the national oil company (PEMEX) as well as the army (ISSFAM) and navy (SEDMAR). Each scheme has its own network of healthcare providers, and beneficiaries can only receive services from their respective scheme’s provider network.

12. **In 2003 the government reformed the General Health Law to create the SPSS and launch its core policy, Seguro Popular.**¹¹ In the early 2000s a large percentage of Mexico’s population did not have access to health insurance. *Seguro Popular* was designed to universalize health insurance by making coverage available to all citizens not already covered by a social security scheme. It shifted a portion of federal-state fiscal transfers from budget support to insurance premiums, and it secured funding sources to finance these premiums over time. The reform eliminated user fees, though in principle the system was supposed to collect household contributions from those with the ability to pay. It also created explicit entitlements to SPSS affiliates and fully funded them. Its benefits package, known as the Universal Health Services Catalogue (*Catálogo Universal de Servicios de Salud, CAUSES*), was designed to include the most cost-effective interventions to treat and control the main causes of morbidity and hospitalization. Today this package includes 285 primary- and secondary-level interventions and 634 related pharmaceutical products. An additional 59 complex interventions are offered to affiliates through the Fund for Protection against Catastrophic Health Expenditure, including antiretroviral treatments, chemotherapy, radiotherapy, etc. *Seguro Popular* services are offered through the public provider networks managed by the state health secretariats.

Figure 6.5: Trends in Affiliation across Insurance Scheme (millions of people)



Source: Health Secretariat. Directorate of Health Information

Note: These data refer to legal beneficiaries as reported by the different institutions.

13. **Mexico’s private health insurance market remains a small player in the overall health system and private insurance represents a marginal share of total health spending; nevertheless, the private sector plays an important role in service delivery.** Primary care services are generally provided through individual private practices and small physician-owned clinics. Nonprofit hospitals and clinics primarily operate in larger cities. According to SINAIS data, the private sector accounts for 34 percent of Mexico’s total hospital beds, but most private facilities are much smaller in scale than their public counterparts. Despite the private sector’s significance in providing health services, information on the type of services

¹¹ Bonilla-Chacin, M. and N. Aguilera. 2013. “The Mexican Social Protection System in Health.” UNICO Studies Series 1. The World Bank: Washington DC.

the private sector provides and the quality of these services is largely lacking, limiting the Health Secretariat's ability to effectively regulate the sector.

PUBLIC RESOURCE MOBILIZATION AND SOURCES OF FINANCE

14. **Public spending accounts for about half of total health expenditures in Mexico.** Spending agencies include the Federal Health Secretariat, the 32 state health secretariats (and the Federal District Secretariat), IMSS-*Prospera* (previously IMSS-*Oportunidades*). In addition, public spending includes contributions and federal subsidies to the various social security schemes operated by government agencies and state-owned enterprises. *Seguro Popular* is financed through four mandatory contributions: (i) a federal social quota, equivalent to 3.92 percent of the minimum salary of the Federal District; a federal solidarity quota, equivalent to 1.5 times the social quota; a state solidarity quota equivalent to 0.5 percent of the federal social quota; and (iv) a household contribution. Resources for the social and the federal and state solidarity quota all come from general government revenue. Household contributions depend on income level. Households in the four lowest deciles of the income distribution are exempted, as are households below the top three deciles that include pregnant women or young children. In practice, however, very few households pay these contributions. For example, in 2011 less than 1 percent contributed.¹² General government revenue finances all facilities operated by the Federal Health Secretariat, as well as services provided by state health secretariats that are not covered by *Seguro Popular*. General government revenue also finances IMSS-*Prospera* a health delivery network managed by IMSS that primarily provides health services in rural areas for individuals without social security.

15. **Social insurance schemes are financed by employer and employee contributions, as well as a government subsidy or “social quota” in the case of IMSS and ISSSTE.** IMSS illness and maternity insurance is financed through the following mechanisms: (i) employers must contribute 13.9 percent of the Federal District daily minimum salary per employee on a monthly basis; (ii) employees with salaries higher than three times the Federal District minimum wage must contribute 2 percent of the difference between their base salary and three times the Federal District minimum wage; (iii) employers must also contribute an additional 6 percent of the difference between base salaries and three times the Federal District minimum wage for employees with salaries higher than 3 times the minimum wage; and (iv) the federal government must contribute 13.9 percent of the daily Federal District minimum salary. ISSSTE beneficiaries also receive a social contribution from the federal government equal to 13.9 percent of the Federal District minimum wage. The federal government also finances employer contributions for ISSSTE and the social security systems operated by government agencies and state-owned enterprises, and the latter do not require employee contributions.

16. **The amount of federal contributions to beneficiaries under different health insurance systems varies substantially.** In 2011, IMSS received MXN 1,421 per beneficiary, with all other funds coming from employer-employee contributions. ISSSTE received MXN 5,390 per beneficiary. Beneficiaries of the social security systems operated by PEMEX and the military received MXN 17,489. Finally, people without social insurance who received services from the health secretariats or IMSS-*Prospera* received MXN 2,439.¹³

17. **The resources that finance each insurance scheme are pooled separately.** Although the pools tend to be large, particularly in the case of IMSS and *Seguro Popular*, this arrangement is not efficient and perpetuates inequalities. In particular, it limits the possibility of distributing risks between the rich and the poor, since *Seguro Popular* beneficiaries tend to be poorer than the beneficiaries of social security schemes. It also prevents the distribution of risks across population groups. IMSS and ISSSTE beneficiaries are

¹² Knaul et al., 2012

¹³ CONEVAL, 2013

significantly older than the overall population.¹⁴ As a large share of total health spending is financed out of pocket, expanded risk pooling is critical to improving the distributional equity of the healthcare system.

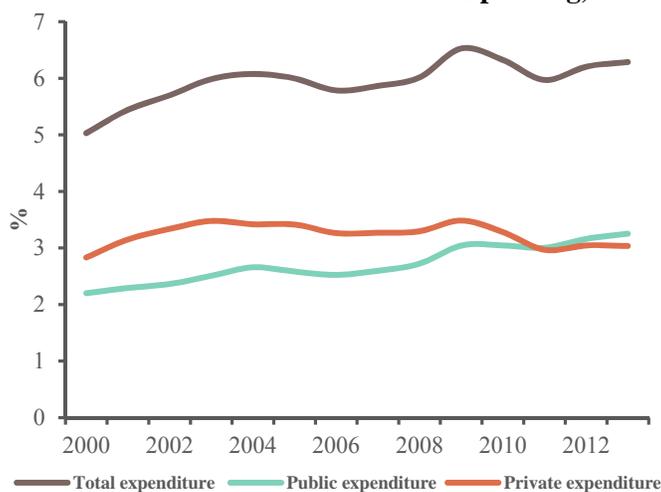
HEALTH EXPENDITURES: LEVELS, COMPOSITION AND ALLOCATION

Expenditure Levels

18. **Total health spending in Mexico has increased steadily in recent years.** In 2000, health spending represented 5 percent of GDP, but by 2013 it had reached 6.3 percent (Figure 6.6). Between 2004 and 2014 public expenditures on health grew at an average rate of 5 percent, slightly slower than total government expenditures, but much higher than the real GDP growth rate, which was about 2.4 percent.

19. **The federal and state health secretariats and various social security schemes together comprise about half of all health spending, and most of these funds are included in the federal budget.** The federal government transfers funds to the states for the management of public health service delivery networks. These funds are included in FASSA (*Fondo de Aportaciones para los Servicios de Salud*) which includes earmarked funds for health (*aportaciones*). FASSA is included in the Federal Budget (*Presupuesto de Egresos Federales*, PEF) under the classification Ramo 33. Other budgetary resources transferred to the states are included under Ramo 12, the PEF classification for all Federal Health Secretariat programs. With the creation of the SPSS, additional resources from Ramo 12 are now transferred to the states to finance part of the *Seguro Popular* premium and other resources linked to the SPSS.

Figure 6.6: Trends in Total Public and Private Health Spending, 2000-2013 (% of GDP)



Source: SINAIS data

Note: Data are in Constant Pesos, 2010=100

20. **Federal transfers to the states represent the bulk of total public expenditures on health for those not covered by a social security scheme.** Health spending by states is comparatively limited. Between 2000 and 2013 state spending represented an average of 6 percent of total public expenditures on health, and in 2013 it represented just 5 percent (Figure 6.8). Examining public expenditures on health for those not covered by social security, state spending represented an average of 16 percent of total expenditures between 2000 and 2013, and in 2013 it represented about 12 percent (Figure 6.7).

¹⁴ In 2012 about 17 percent of Mexico's population was between the ages of 45 and 64, and 6 percent were older than 65. By contrast, 20.3 percent of IMSS beneficiaries were between 45 and 64, and 11.6 percent were over 65. IMSS, 2013.

Figure 6.7: Federal and State Expenditure on Health for Those Not Covered by Social Security, 2000-2013

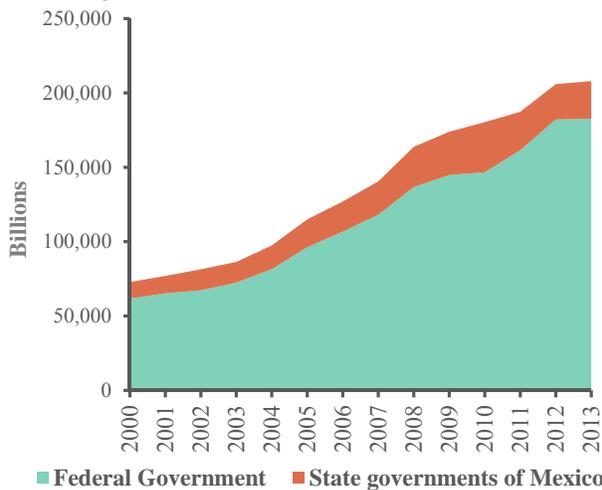
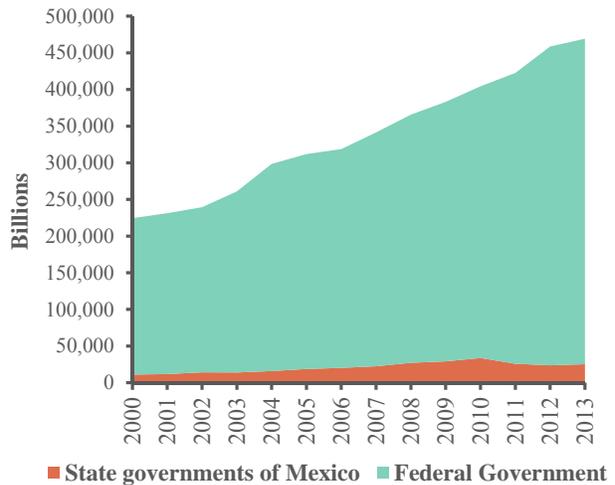


Figure 6.8: Federal and State Expenditure on Health, 2000-2013



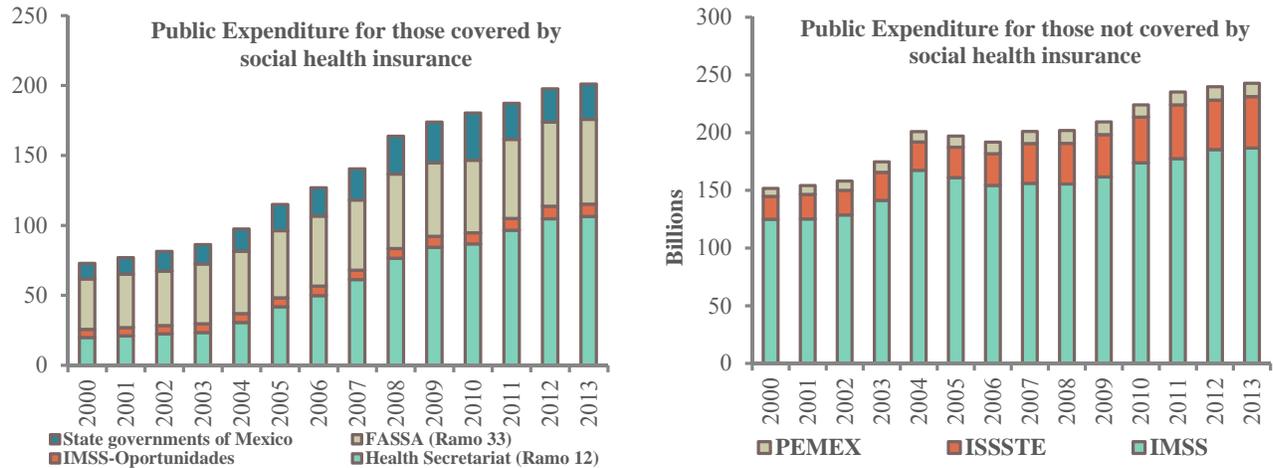
Source: SINAIS

Note: Monetary figures are in 2010 pesos

21. **The rise in total health expenditures over the last decade was driven by increased spending on beneficiaries without social security coverage.** The launch of the *Seguro Popular* pilot project in 2002 and its institutionalization in 2003 coincided with a substantial increase in spending. Spending rose further between 2008 and 2012, when enrollment in *Seguro Popular* increased from 27 million to 53 million. Of all transfers that finance services for those without social security coverage, Ramo 12 experienced the largest increase (Figure 6.9). Public expenditures on health not only grew for *Seguro Popular* beneficiaries, but for beneficiaries of IMSS and ISSSTE as well. State expenditures increased slightly from 2003 to 2010, which could also reflect the creation of *Seguro Popular*, as states finance part of the premium. Since 2010 state spending has stabilized both in real terms and as a percentage of total public health expenditures.

22. **Despite significant increases in public health spending on those not covered by social security, especially via the establishment *Seguro Popular*, IMSS continues to execute the largest share of public expenditures on health.** Health expenditures on beneficiaries not covered by social security are implemented by a large number of institutions. The 32 state health secretariats and state health services execute a large share of spending, as does IMSS-*Prospera* (previously IMSS-*Oportunidades*). IMSS is centrally managed and covers most formal sector employees. Consequently, any improvement in IMSS efficiency would have a large impact on the overall efficiency of the public health system.

Figure 6.9: Public Expenditure on Health across Public Entities as per Federal Expenses Budget Classification

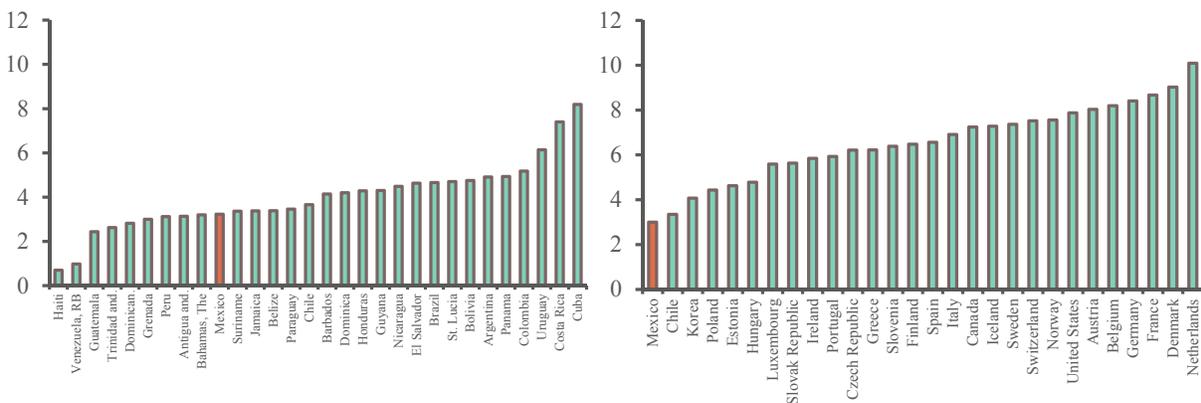


Source: SICUENTAS

Note: Data are in constant 2010 billion pesos

23. **Despite recent increases in public spending on health, Mexico remains one of the lowest spenders in the region and the lowest among OECD countries.** In 2012 Mexico's public spending on health as a share of its total budget was close to the OECD average of 15.5 percent.¹⁵ However, as a percentage of GDP Mexico's public spending on health was among the lowest in the LAC region and the very lowest among OECD countries. This is also true in per capita terms; Mexico's public sector spent US\$403 on health per person in 2012, a fifth of the OECD average for that year.¹⁶ Although OECD countries tend to be richer and have older populations, both of which partially explain differences in expenditure levels, Mexico's economic and demographic profile is similar to that of other LAC countries, many of which spend far more public resources on health.

Figure 6.10: Public Health Spending in LAC, 2012, and among OECD Countries, 2013 (% of GDP)



Source: Data for OECD countries are from the OECD database; data for Latin American countries are from the World Bank.

24. **Low levels of public spending on health in Mexico are closely tied to low levels of revenue collection.** Mexico has one of the lowest levels of public spending on health, both on per capita terms and

¹⁵ According to data from the 2013 World Development Indicators.

¹⁶ Expressed in 2005 US\$ and compared in purchasing-power parity terms.

as percentage of GDP. However, the share of the government budget allocated to the sector is similar to the OECD average. The country's low levels of public spending are instead a reflection of low levels of revenue collection.

Current and Emerging Challenges in the Health Sector

25. **As *Seguro Popular* coverage is now almost universal, its contribution to public expenditure growth will diminish; however, Mexico's health sector faces other important challenges.** A rapidly aging population and an increasing burden of noncommunicable diseases (NCDs) are generating a secular increase in health spending. Meanwhile, additional factors will exert further pressure on expenditures in the years to come, including advances in medical technology, emerging diseases, and rising public expectations regarding the quality and availability of health services.

26. **The increasing burden of NCDs due to the aging of the population and its rising exposure to risk factors such as unhealthy diets, physical inactivity, tobacco use, and alcohol abuse are having a profound impact on the health system and the economy as a whole.** NCDs often require continuous contact with the health system over long periods, and if they are not properly managed, these conditions can result in costly hospitalizations. NCDs often impose a large financial burden on households through out-of-pocket (OOP) costs. They also negatively impact the labor market and reduce economic output through worker absenteeism, productivity losses, and premature death. One study of the health and economic impact of obesity in Mexico estimates that the healthcare costs of obesity-related chronic conditions (i.e. diabetes, certain cancers, chronic heart disease and stroke) was about US\$806 million in 2010, and these costs are projected to reach US\$1.2 billion in 2030 and US\$1.7 billion in 2050.¹⁷

27. **New diagnostic technologies, treatment options and organizational systems can greatly improve patient care and health results, but medical innovations often come at a high price.** Between 1984 and 1998 Medicare beneficiaries in the US experienced a nearly 1 percent decrease in heart attacks per year, due in part to better management of hypertension and cholesterol levels, while improved surgical techniques increased average survival rates for victims of heart attack by about one year. However, these advances were accompanied by substantial cost increases. The cost of treating a heart attack almost doubled, rising by 4.2 percent per year. About 45 percent of this increase was due to the expansion of treatment to new patients, while 33 percent was due to higher treatment costs.¹⁸ Information technology has become very important to combatting NCDs by enabling doctors and patients to make more informed decisions. Information technology can also increase the technical efficiency of health service provision, but these systems are often expensive to implement.

28. **Patients' expectations and preferences change over time.** As new technologies provide better treatment options, pressure for these new treatments to be covered by public insurance rises. The package of services provided by *Seguro Popular* is smaller than those offered by various social security schemes, but its range of coverage has steadily expanded. In 2003, during its pilot stage, *Seguro Popular* covered only 78 interventions and 139 pharmaceutical products; by 2014 it covered 285 interventions and 634 pharmaceutical products. Finally, the share of the Mexican population that utilizes health services is relatively low compared to other countries in the region, including some with lower income levels, and utilization rates are expected to increase over time. In particular, the broadening coverage of *Seguro Popular* and its expanding service package will likely increase utilization rates among the poor. These trends are expected to intensify expenditure pressures over the medium term.

¹⁷ Rtveladze et al., 2013

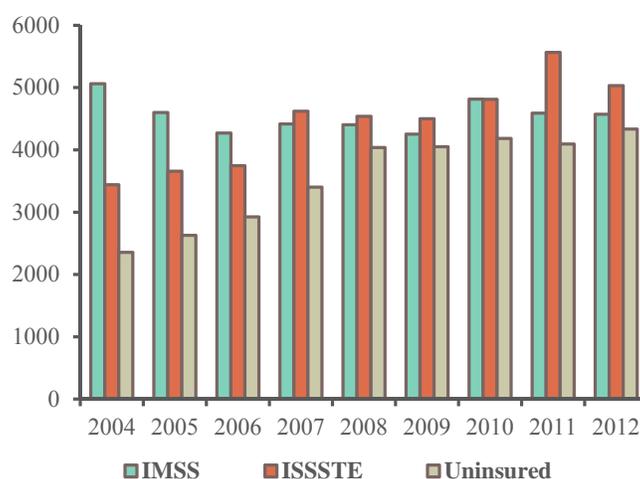
¹⁸ David M. Cutler and Mark McClellan. 2001. "Is Technological Change In Medicine Worth It?" *Health Affairs*, 20, 5:11-29.

29. **Emerging diseases could also increase healthcare costs.** Diseases that appear for the first time in a population, or whose incidence or geographic area increases rapidly, can have deeply negative economic impacts arising from both direct healthcare costs as well as indirect costs due to productivity losses. The H1N1 pandemic of 2009, for example, cost Mexico an estimated US\$9,110 million, 96 percent of which was lost productivity.¹⁹ Current emerging diseases include Chikungunya, a rising number of cases of which are being reported in Mexico. And while it remains confined to West Africa, the Ebola virus has had devastating health and economic impact in Liberia, Sierra Leone, Guinea, and other countries in the region.

The Distribution of Public Expenditures on Health

30. **The difference in per capita spending on those covered by social security and those that are not has narrowed over time.** Figure 6.11 shows trends in per capita spending on IMSS and ISSSTE beneficiaries and on those without social security coverage. Since there is no unique roster of beneficiaries for all insurance schemes, and as the data are inconsistent across different sources, the users of each institution’s healthcare network serve as a proxy for all beneficiaries. Following the creation of *Seguro Popular*, per capita expenditures on users not covered by social security has increased rapidly. However, *Seguro Popular* represents only part of all expenditures on those not covered by social security, which also includes spending on public health programs, spending from IMSS-Prospera, and state health spending. ISSSTE’s per capita spending has increased slowly over time, and IMSS expenditures have remained relatively stable. Despite recent improvements there are still significant differences in expenditures, particularly between beneficiaries of PEMEX and ISSFAM, which are fully financed by the federal government, and programs designed to benefit the general population.

Figure 6.11: Per Capita Public Spending on IMSS, ISSSTE, and Users Not Covered by Social Security



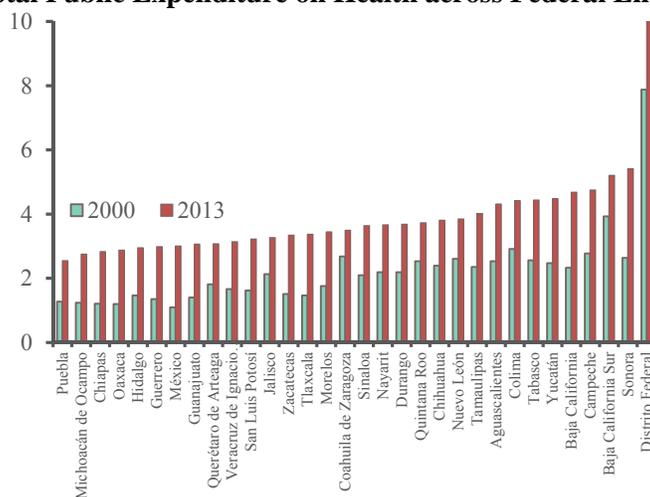
Source: World Bank estimates based on expenditure data from SINAIS and *Segundo Informe de Gobierno*

31. **There are also variations in per capita health spending across states, although disparities decreased significantly between 2000 and 2003.** In 2000 the ratio between the states with the highest and lowest per capita expenditures was 6.2, but by 2013 it had dropped to 3.9. The Federal District has the highest level of per capita health spending, but this includes expenditures on national hospitals and health

¹⁹ CEPAL/OMS-OPS, 2010. Evaluación Preliminar del Impacto en México de la Influenza AH1N1, Documento elaborado por el equipo conjunto CEPAL/OPS-OMS a solicitud y con el apoyo del Gobierno de México.

institutes that benefit the country as a whole. If the Federal District is excluded the ratio fell from 3.6 in 2000 to 2.1 in 2013.

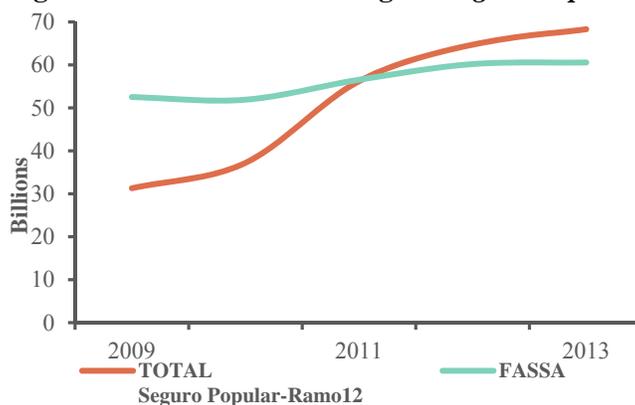
Figure 6.12: Total Public Expenditure on Health across Federal Entities, 2000-2013



Source: SINAIS

32. **The improvement in the distribution of public expenditure across states is partly due to the mechanism used to finance *Seguro Popular*.** The federal solidarity quota, which partially finances *Seguro Popular*, includes FASSA resources (under Ramo 33). FASSA transfers were originally designed to finance healthcare infrastructure and personnel costs that were decentralized in the 1980s and 1990s. The criteria used to distribute these resources takes into account existing infrastructure and health personnel, and states with larger infrastructure and personnel tended to receive more resources, perpetuating inequalities. *Seguro Popular* changed this dynamic. Although its financing mechanism is complex, states essentially receive the difference between what they need to receive from the federal solidary quota and what they already receive from FASSA. Funds for *Seguro Popular* (under Ramo 12) have been increasing over time and now represent about half of all federal funding for *Seguro Popular* (Figure 6.13).

Figure 6.13: Federal Financing for *Seguro Popular*



Source: SINAIS

Note: Data are in Constant 2010 Billion Pesos

33. **Coordination agreements between the Federal Health Secretariat and states govern federal funding for *Seguro Popular*.** The share of funds that finance *Seguro Popular* through FASSA (Ramo 33) is considered state resources and is transferred to the states regardless of whether there is a coordination agreement in place. However, *Seguro Popular* funds from the Federal Health Secretariat (Ramo 12) are considered federal resources and can only be transferred on the basis of a coordination agreement. These agreements specify, among other things, the maximum amounts that can be used for certain expenditure categories, which include: (i) up to 40 percent for human resources; (ii) up to 30 percent for pharmaceutical products; (iii) at least 20 percent for prevention and early detection of covered conditions (CAUSES); and (iv) up to 6 percent for administrative costs.

34. ***Seguro Popular* resources transferred from Ramo 12 to the states are not currently tied to performance indicators; instead, allocations are based on the number of beneficiaries and the aforementioned rules for use of the funds.** The mechanism used to finance *Seguro Popular* generated incentives for the states to enroll beneficiaries, since they receive two federal government transfers per enrollee, but it did not create any performance incentives at the state level. Since the funds that finance *Seguro Popular* out of Ramo 12 are at least as large as those in FASSA, it would be useful to explore incorporating performance incentives into the allocation criteria for Ramo 12 resources. Argentina's *Plan Nacer/Programa Sumar*, in which federal resources for health programs are sent to the states based on health quality and coverage indicators, may provide an instructive example.²⁰

35. **The benefit incidence of public spending on health across income levels has also become more progressive over time.** In 1996 less than 10 percent of public spending reached beneficiaries in the poorest quintile of the income distribution, but by 2010 this share had risen to 17 percent.²¹ The distribution of public expenditures among those without social security improved the most. In 1996 19 percent of public expenditures on those not covered by social security went to people in the poorest quintile of the income distribution; by 2010 this share had risen to 38 percent (Table 6.2).

Table 6.2: Benefit Incidence of Public Health Spending, Major Programs, 1996-2010

Description	Year	Distribution by per capita income					Total
		Q1	Q2	Q3	Q4	Q5	
Total	1996	9.6%	18.9%	21.7%	25.7%	24.0%	100.0%
Uninsured (SSA)		18.9%	31.7%	23.2%	17.3%	8.9%	100.0%
Insured (IMSS)		6.2%	14.3%	21.2%	28.8%	29.5%	100.0%
Total	2000	16.5%	17.7%	21.7%	26.6%	17.4%	100.0%
Uninsured (SSA)		36.1%	22.6%	19.7%	15.1%	6.5%	100.0%
Insured (IMSS)		5.5%	15.0%	22.8%	33.1%	23.6%	100.0%
Total	2006	17.2%	18.3%	20.6%	23.4%	20.4%	100.0%
Uninsured (SSA)		32.8%	26.4%	19.6%	14.4%	6.8%	100.0%
Insured (IMSS)		5.1%	12.1%	21.3%	30.4%	31.1%	100.0%
Total	2010	17.5%	18.5%	19.8%	21.0%	23.1%	100.0%
Uninsured		38.1%	27.1%	18.7%	11.5%	4.6%	100.0%
Contributive HI		3.7%	12.7%	20.6%	27.5%	35.6%	100.0%

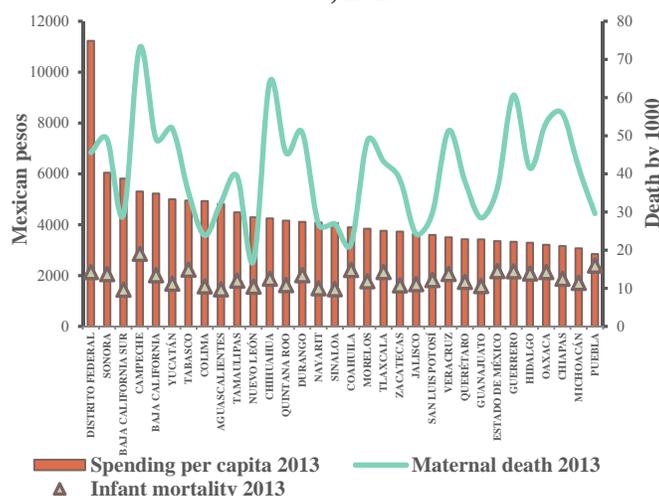
Source: John Scott and B. Y. Diaz, 2013.

²⁰ Cortez et al., 2012

²¹ Scott and Diaz, 2013

36. **There is scope for further improving the distribution of spending by accounting for the different health needs of individual states.** There are large disparities in health outcomes across states, and the distribution of per capita public health spending does not reflect the health status of state populations. While the formula to distribute FASSA resources across states does take into account some population needs, the formula could be further enhanced.

Figure 6.14: Per Capita Public Spending on Health and Infant and Maternal Mortality Rates by State, 2013



Source: World Bank staff estimates based on expenditure data from SINAIS and *Segundo Informe de Gobierno*

Public Expenditures on Health by Category

37. **Current expenditures represent more than 90 percent of public spending on health, while investment spending is slightly greater for those not covered by social security.** In 2012 and 2013 investments on average accounted for less than 3 percent of total public expenditures on health (Table 6.3). In 2011 the share was slightly higher at 4.6 percent. The majority of investments were dedicated to infrastructure improvements and medical equipment, Personnel represented the largest share of current expenditures on health at about half of total spending, followed by materials and supplies and transfers.

38. **About two-fifths of public spending on health for those not covered by social security is spent on personnel.** This includes not only remuneration for the staff of the Federal Health Secretariat and the different national health institutes, but also personnel in the state health services and IMSS-Prospera. However, this figure underestimates total personnel spending, since a large share of the expenditure on those not covered by social security reflects expenditures on transfers and subsidies, mainly for service provision (Table 6.3). Most of these resources are transfers to the states for the functioning of *Seguro Popular*. In 2013 there were MXN 76 million in transfers and subsidies, about 90 percent of which were transfers for *Seguro Popular*.²² States can use up to 40 percent of these resources for personnel spending. Assuming all states used that maximum, the total share of personnel services in 2013 would be 58 percent of current expenditures instead of 43 percent. To ensure transparency the final use of all subsidies and transfers should be recorded in the health financing information system.

²² SINAIS data expressed in constant 2010 dollars.

Table 6.3: Public Expenditure on Health for those not Covered by Social Security by Expenditure, 2012-2013

Category	2012	2013	2012 Share	2013 Share	2012 Share of Total Expenditures	2013 Share of Total Expenditures
Public expenditures on health	205,846,776	207,889,916				
Current expenditures	193,935,625	184,765,675	94.2%	88.9%	94.2%	88.9%
Personnel services	85,696,838	80,152,700	44.2%	43.4%	41.6%	38.6%
Materials and supplies	14,590,986	16,125,670	7.5%	8.7%	7.1%	7.8%
General services	18,485,208	12,235,868	9.5%	6.6%	9.0%	5.9%
Transfers, subsidies and other aid	73,621,554	76,113,899	38.0%	41.2%	35.8%	36.6%
Investments and other provisions	7,336	137,539	0.0%	0.1%	0.0%	0.1%
Investment expenditures	4,064,653	3,888,448	2.0%	1.9%	2.0%	1.9%
Tangibles and intangibles goods	1,320,990	1,625,996	32.5%	41.8%	0.6%	0.8%
Public investment	2,551,490	2,258,889	62.8%	58.1%	1.2%	1.1%
Public debt	90,300	0	2.2%	0.0%	0.0%	0.0%

Source: SINAIS

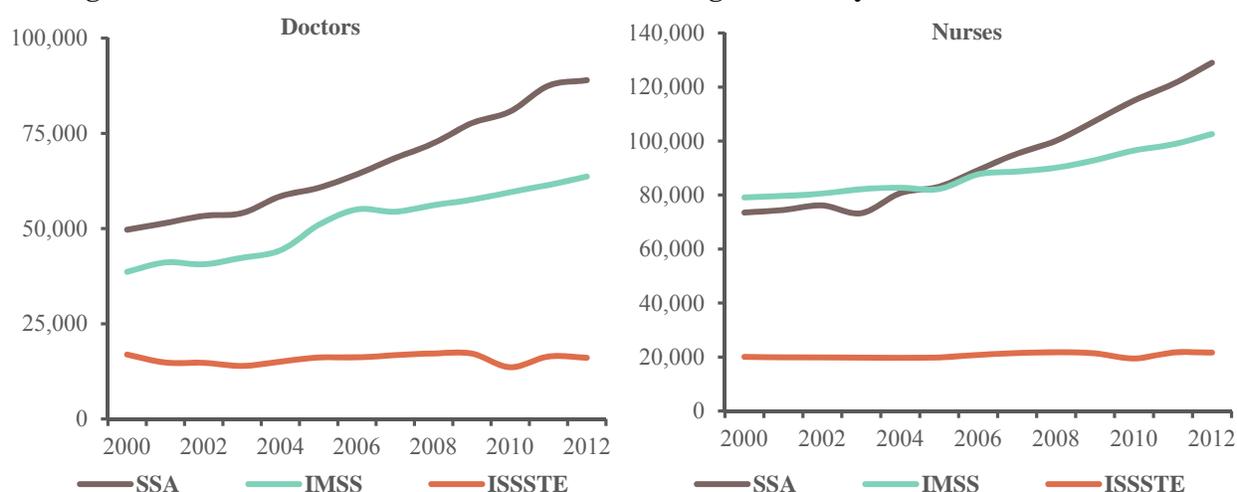
Note: Data are in Constant 2010 Thousands Pesos

39. **Following the administrative decentralization reforms of 1996, all federal health personnel became personnel of the state health services.** All of these positions were to be financed through transfers from FASSA. Though health staff became state employees, their contractual arrangement was aligned with the General Working Conditions of the Health Secretariat, which are agreed to between the Federal Health Secretariat and the health workers' union. Thus, the state health secretariats cannot negotiate terms of service with their health workers. The number of these positions, financed through FASSA transfers, has increased slowly over time.

40. **Part of the resources that finance *Seguro Popular* can be used to pay for health personnel, which has contributed to an increase in the number of health workers in state health secretariats.** These workers have fixed-term renewable contracts, which follow the same conditions as those financed through FASSA—the only difference being that they are not open-ended. Before 2007 these were short-term positions that followed different contracting rules. Due to the additional resources provided by *Seguro Popular*, the number of state health secretariats personnel has increased much faster than the number of IMSS and ISSSTE personnel (Figure 6.15). These increases significantly alleviated the previous shortage of healthcare workers. In 2012, Mexico still had the second-fewest nurses per capita in the OECD, but it had more doctors per capita than Chile, Korea and Turkey.²³ This rapid increase in the number of state-level healthcare personnel is likely to slow in the coming years, as resources from *Seguro Popular* are not expected to increase as fast as they have to date.

²³ OECD Health Statistics 2014. http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_REAC.

Figure 6.15: Trends in Doctors and Nurses Attending Patients by Health Provider Network



Source: SINAIS

41. **Personnel costs represent a larger share of total health spending in the social security schemes than the public agencies serving beneficiaries not covered by social security.** About three-fifths of IMSS and ISSSTE health expenditures goes to personnel, a much larger share than the agencies that serve those not covered by social security, even when *Seguro Popular* funds are included. As described in the following section the number of healthcare personnel per beneficiary is broadly similar between the state health secretariats and the largest social security schemes. The difference in expenditures thus appears to reflect disparities in compensation across agencies.

Table 6.4: Public Health Spending on Beneficiaries Not Covered by Social Security, 2012-2013

Category	2012	2013	2012 share	2013 share	2012 share of total expenditure	2013 share of total expenditure
Public Health Spending	252,819,161	261,318,335				
Current Expenditures	242,365,064	248,691,284	95.9%	95.2%	95.9%	95.2%
Personal services	151,797,980	155,609,954	62.6%	62.6%	60.0%	59.5%
Materials and supplies	59,319,919	59,997,534	24.5%	24.1%	23.5%	23.0%
General services	29,225,499	29,940,668	12.1%	12.0%	11.6%	11.5%
Transfers, subsidies and other aid	1,809,677	2,960,963	0.7%	1.2%	0.7%	1.1%
investments and other provisions	211,990	182,165	0.1%	0.1%	0.1%	0.1%
Capital Expenditures	8,338,597	5,670,123	3.3%	2.2%	3.3%	2.2%
Transfers, subsidies and other aid	0	0	0.0%	0.0%	0.0%	0.0%
Tangibles and intangibles goods	2,962,435	2,368,960	35.5%	41.8%	1.2%	0.9%
Public investment	4,257,969	1,847,844	51.1%	32.6%	1.7%	0.7%
Public debt	1,118,194	1,453,318	13.4%	25.6%	0.4%	0.6%

Source: Data from SINAIS. Health Secretariat. General Directorate of Health Information.

Note: Current and investment expenditure within social security institutes do not add to 100 percent. This is mainly due to the not inclusion of expenditure from SEDENA, SEDMAR, ISSFAM and state social insurance schemes.

Note: Data are in Constant 2010 Thousands Pesos

42. **Within the social security schemes the largest share of personnel spending is devoted to “other social and economic benefits”.** In the state health secretariats and IMSS-*Prospera*, by contrast, the largest share of personnel costs goes to remuneration. The “other social and economic benefits” category includes

contractual benefits and pension benefits that are supplemental to contributions to social security. Pension benefits are likely to be especially high at IMSS.

Table 6.5: Public Expenditure on Personnel Services, 2013

	Non-Social Security Institutions	Social Security Institutions	IMSS	ISSSTE
Personal services (in % of current expenditures)	43.4%	62.6%	67.5%	49.2%
Remuneration of permanent staff	40.0%	18.2%	15.9%	31.40%
Remuneration of transitory staff	8.2%	1.7%	1.85%	0.50%
Additional and special remuneration	18.6%	14.9%	12.95%	14.69%
Social security	7.2%	12.5%	12.73%	7.87%
Other social and economic benefits	23.0%	43.0%	46.72%	32.19%
Provisions	0.1%	0.0%	0.00%	0.00%
Payment of incentives for civil servants	3.0%	9.7%	9.84%	13.34%
	100%	100%	100%	100%

Source: SINAIS; Health Secretariat; General Directorate of Health Information.

43. **There are also large differences in personnel expenditures between social security schemes.** Between 2005 and 2013 personnel costs accounted for between 64 and 68 percent of total health spending by IMSS; for ISSSTE personnel costs were below 50 percent for all years except 2005 and 2006. Most of this difference is due to the share of personnel spending on “other social and economic benefits.” In 2013, this category represented close to 47 percent of total personnel spending for IMSS, while for ISSSTE it represented 32 percent. This difference largely reflects the retirement benefits received by IMSS staff hired before 2008 (Box 6.1). This expenditure will continue increasing and it is already generating a difficult financial situation for IMSS. However, this is a legacy cost for people covered by previous pension plans. These plans have been reformed since.

Box 6.1: The Retirement and Pension Regime for IMSS

In addition to the retirement and pension benefits received by all formal workers under the Social Security Law, all IMSS workers are entitled to an additional retirement and pension regime (*Régimen de Jubilaciones y Pensiones*, RJP). IMSS workers have historically financed about 8.1 percent of the RJP’s total cost, while IMSS finances about 20.8 percent in its role as insurer and 62.5 percent in its role as employer. Due to the large and increasing burden of financing the RJP the regime was reformed in 2005 and again in 2008. As a result, there are now three different RJP’s for IMSS workers:

1. *Workers hired before 2005* contribute 10 percent of their salary to the RJP, 3 percent to finance their own benefits and 7 percent to finance the benefits of workers hired between 2005 and 2008. Women can retire after 27 years of service and men after 28 years; there is no minimum retirement age.
2. *Workers hired between 2005 and 2008* contribute 10 percent of their salary to finance their own benefits. Women can retire after 34 years of service and men after 35 years; the minimum retirement age is 60.
3. *Workers hired after 2008* contribute 12 percent of their salary to individual retirement accounts, which increases by one percentage point per year up to 15 percent. These workers do not represent a pension liability for the institution.

Source: IMSS, 2013. *Informe al Ejecutivo Federal y al Congreso de la Unión sobre la situación financiera y los riesgos del Instituto Mexicano del Seguro Social.*

44. **Finally, there is a significant difference in the share of resources allocated to materials and supplies between the social security institutes and agencies providing services to those without social**

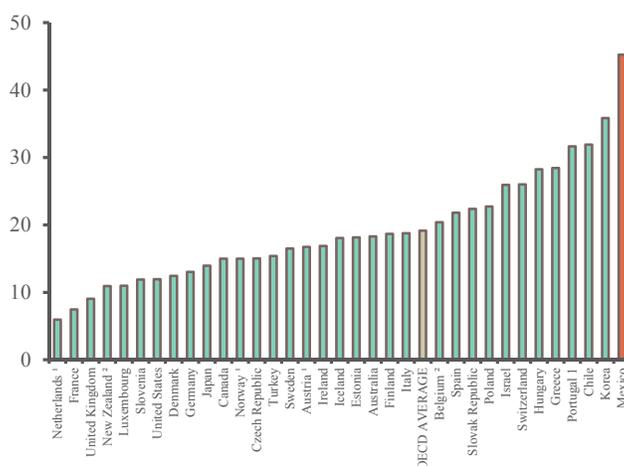
insurance. ISSSTE devotes about 30 percent in all those years, while IMSS typically spends between 18 and 21 percent. This is explained in part by the different package of services provided by these institutes compared to those offered by the health secretariats and IMSS-*Prospera*. Also, some procurement spending by the state health secretariats may be included in the category of “transfers and subsidies.” For instance, states can use up to 30 percent of the transfers they receive from *Seguro Popular* for pharmaceutical procurement.

Private Healthcare Spending

45. **While public spending on health has steadily increased, private expenditures continue to represent about half of total health spending, with deeply negative equity implications.** Private health spending has fallen in recent years, particularly after 2009, due in part to the expansion of *Seguro Popular*. Several studies have documented the positive impact of *Seguro Popular* on healthcare utilization rates and noted both a significant reduction in OOP spending among its beneficiaries and a decrease in the percentage of households incurring catastrophic health costs.²⁴ However, despite the impact of the program, private health spending still represented 49 percent of total expenditure in 2012, nearly twice the OECD average and second only to the United States.²⁵

46. **However, in contrast to the US, where most private expenditure is on insurance premiums, the largest share of private health spending in Mexico is OOP payments, which adversely affects the equity and efficiency of the healthcare system.** Mexico has the largest share of OOP spending among OECD countries at a full 2.4 times the average (Figure 6.16). Unlike insurance payments, OOP resources are not pooled, and there is no distribution of risks between people of different income levels or health statuses.

Figure 6.16: The Share of OOP Costs in Total Health Spending, OECD Countries, 2012 or Nearest Year



Source: OECD Health Statistics 2013

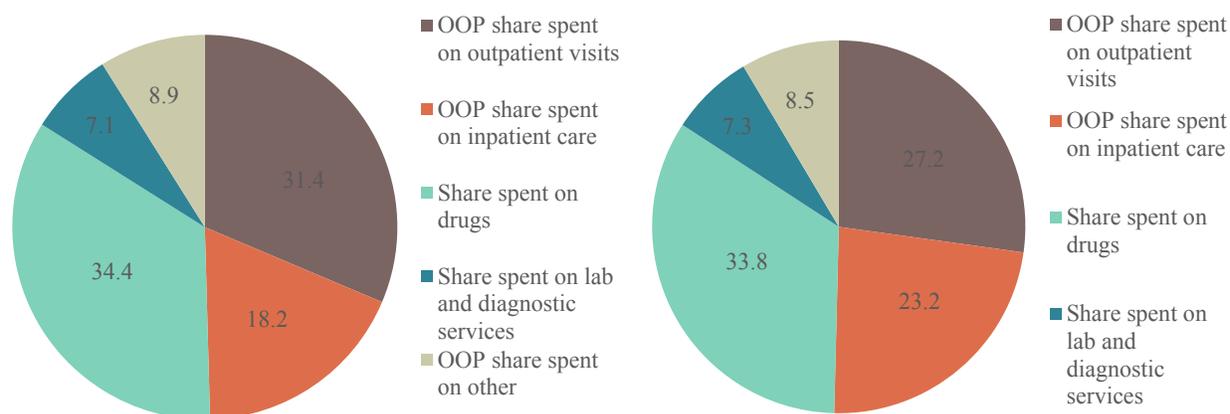
47. **Pharmaceuticals account for more than a third of OOP spending, the largest share of any expenditure category.** This pattern has remained essentially unchanged. Most OOP pharmaceutical spending is on over-the-counter products, though some prescription drugs may not be provided by public health facilities. The share that goes to outpatient care has decreased over time, while that of inpatient care

²⁴ Giedion et al., 2013

²⁵ OECD Health Statistics 2014.

has slightly increased. This could be due to the expansion of *Seguro Popular*, which covers most outpatient services at primary and secondary care facilities but only a limited set of inpatient services. It could also reflect a preference among patients to use private facilities for services.

Figure 6.17: Composition of OOP Health Spending in Mexico, 2000 and 2010



Source: Dmytraczenko, Tania, and Gisele Almeida, eds. 2015

48. **A large percentage of Mexicans use private providers for treatment of illness or injury.** According to data from the 2010 income and expenditure survey about a quarter of the population reports going to a private provider in case of illness or injury, and as many as 18 percent report visiting a pharmacy. People in the highest income quintile are most likely to use private providers, while those in the lowest quintile are most likely to use public primary care facilities. This pattern remains the same even among those with public health insurance coverage. For example, 21 percent of IMSS beneficiaries reported using a private provider, as did about 13 percent of *Seguro Popular* beneficiaries.

Table 6.6: Health Service Utilization for the Treatment of Illness or Injury by Provider Type, 2010

	Income Quintiles					Total
	I	II	III	IV	V	
Primary health care facility (public)	60%	45%	35%	23%	12%	35%
Hospital or Institute	10%	8%	7%	5%	3%	6%
IMSS	9%	23%	31%	35%	33%	26%
Oportunidades	5%	3%	2%	1%	1%	2%
ISSSTE	1%	2%	3%	7%	10%	5%
ISSSTE (state)	0%	1%	2%	2%	3%	2%
Others	1%	1%	2%	2%	3%	2%
Private medical practice	14%	18%	19%	29%	45%	25%
Pharmacy practice	14%	20%	22%	19%	13%	18%
Curandero	1%	0%	0%	0%	0%	0%
Self medicates	5%	5%	6%	5%	5%	5%
Other	6%	3%	2%	2%	3%	3%
Don't know	0%	0%	0%	0%	0%	0%

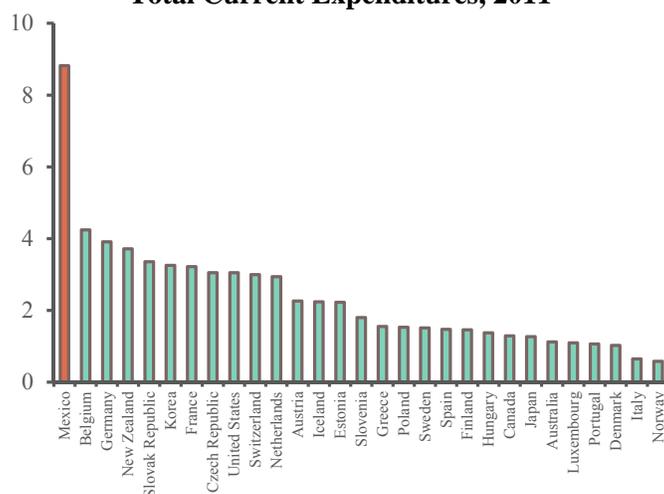
Source: Household Income and Expenditure Survey, 2010.

Note: People had more than one option in answering this question and thus the responses add to more than 100%

The Allocative Efficiency of Public Spending on Health

49. **Mexico devotes a larger share of total current spending on health to administrative and insurance costs than any other OECD country.** This is largely the result of the organizational fragmentation of the healthcare system. Mexico currently operates a large number of parallel insurance schemes with little coordination or functional integration. Figure 6.18 shows public expenditures on health administration and health insurance as a percentage of total current spending among OECD countries. Part of Mexico's substantially elevated spending levels are likely due to overestimation. The central units of all health agencies, and particularly those within the social security schemes, manage the financial resources for all health facilities; as a result, it is difficult for decentralized units to account administrative expenses separately from other expenditures on health services. Misclassification of expenditures as administrative spending might also contribute to overestimation. Weaknesses in data reporting and accounting need to be addressed in order to improve the management and oversight of administrative spending. These caveats notwithstanding, Mexico's expenditures on health administration and health insurance likely represent a larger share of total current spending than in other OECD countries.

Figure 6.18: Public Expenditures on Health Administration and Health Insurance as Percentage of Total Current Expenditures, 2011



Source: OECD, 2011

Note: The OECD classifies planning, regulation, revenue collection, management of complaint mechanisms as administrative costs; among Mexico's social security schemes these functions apply to both health and non-health-related services.

50. **Mexico also devotes a relatively large share of its public spending on health to prevention and public health initiatives.** Preventing illnesses limits future expenditures on curative care and is an efficient way to allocate scarce resources. Mexico has a good record in delivering key preventive care services compared to other countries in the region. It also exhibits the lowest income disparity in access to preventative care.

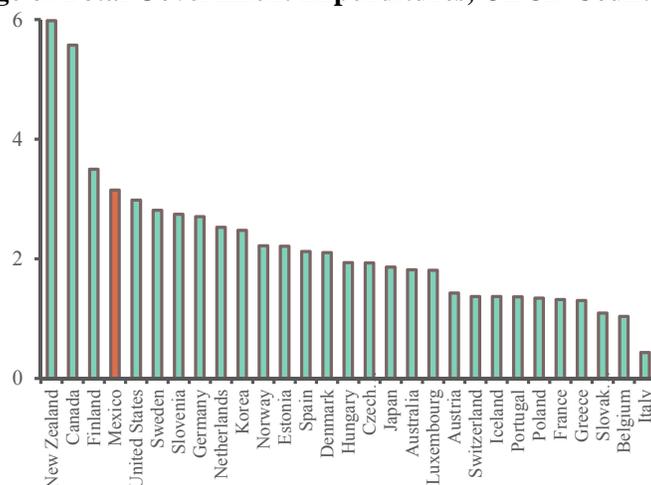
51. **Mexico has high rates of immunization coverage and breast cancer screening across all income levels.** According to a World Bank and Pan-American Health Organization (PAHO) study 76 percent of the Mexican population was fully immunized in 2012, one of the highest levels in the region.²⁶ In most countries included in the study immunization rates were generally higher among wealthier households; however, some countries, such as Bolivia, Mexico and Colombia, succeeded in reducing

²⁶ Dmytraczenko and Almeida, eds., 2015.

disparities by raising rates amongst low-income households. The study also found that Mexico had the highest rate of mammograms for a 3-year recall period (80 percent), followed by Argentina (71 percent), Brazil (59 percent), Costa Rica (38 percent), Chile (37 percent) and Colombia (17 percent).²⁷

52. **Mexico has also made considerable efforts to contain the rise of NCDs by promoting healthy diets, encouraging physical activity and reducing tobacco use.** The government regulates food sold in schools, taxes sugar-sweetened beverages and foods of low nutritional value, mandates detailed nutritional labelling, and restricts the marketing of low-nutrition foods to children, *inter alia*.

Figure 6.19: Public Spending on Disease Prevention and Other Public Health Services as Percentage of Total Government Expenditures, OECD Countries, 2011



Source: OECD

EFFICIENCY AND EQUITY IMPLICATIONS OF THE ORGANIZATION OF THE HEALTH SYSTEM

Efficiency Implications

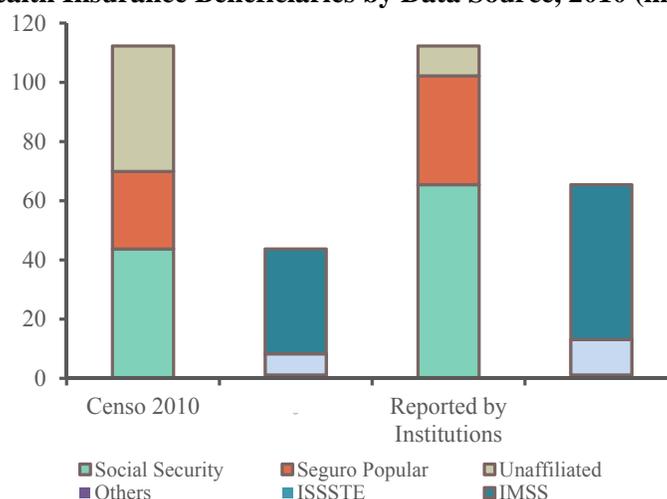
53. **The Mexican healthcare system includes several health insurance schemes; each scheme has its own funding sources, insurance pools, administrative structures, financial reserves, and service provider networks, resulting in duplications and inefficiencies in the use of public resources.** There is little functional integration and coordination across these subsystems, since affiliates are limited to services provided by their scheme’s own network. In 2012, health administration and insurance costs in Mexico represented an estimated 9 percent of total current expenditure on health, the highest in the OECD as discussed before.

54. **There are significant beneficiary overlaps and inconsistencies across insurance schemes.** Different data sources indicate completely different coverage levels for different schemes. Figure 6.20 shows each scheme’s beneficiaries in 2010 as recorded in each institution’s reports and in the 2010 census. The observed differences may be due in part to individuals being unaware of, or mistaken about, their own insurance status and reporting it incorrectly in the census. Institutional reports also suffer from data limitations, and there is no unique roster of beneficiaries in which to consolidate coverage information. The

²⁷ In order to make comparisons across countries the authors had to adjust both Mexico’s and Colombia’s figures. The figures for those two countries slightly overestimates coverage rates. However, this does not affect the equitable distribution of mammography screening in Mexico which is better than in any other country.

social security schemes have reliable data on contributing workers, but this does not necessarily extend to the number of covered dependents. Consequently, beneficiary duplication is common.

Figure 6.20: Health Insurance Beneficiaries by Data Source, 2010 (millions of people)



Source: CONEVAL, 2013

55. **A 2009 report found that 14.5 percent of *Seguro Popular* beneficiaries, or more than 4.4 million people, were already covered by a social security scheme.**²⁸ Of these, the overwhelming majority (13.7 percent) were covered by IMSS, while 0.3 percent were covered by ISSSTE and a negligible share by ISSFAM. There were also about 84 thousand duplicates in the beneficiary roster. Since then the number of *Seguro Popular* beneficiaries has continued to increase, and the lack of a unique roster of beneficiaries has prevented comprehensive consolidation and verification. In 2014 the Federal Health Secretariat reported that about 6 million people were covered by both IMSS and *Seguro Popular*, 1 million by IMSS and ISSSTE, 800,000 by *Seguro Popular* and ISSSTE, and 85,000 by *Seguro Popular*, IMSS and ISSSTE.²⁹ In 2014 the federal government transferred MXN 2,370 to the states for each *Seguro Popular* beneficiary, including the social and federal solidarity contributions.³⁰ Eliminating duplications in *Seguro Popular* coverage could have saved an estimated MXN 16.3 billion in 2014 alone, in addition to the potential savings from eliminating IMSS and ISSSTE duplications.

56. **Since federal health transfers are made on a per capita basis, there is an urgent need to consolidate beneficiaries in a single verifiable roster.** Efforts are underway to create a unique roster of beneficiaries across public health institutions, and the government is coordinating the process of information exchange and crosschecking. However, this project is still in its early stages and has not yet been used to eliminate redundant payments.

57. **Fragmentation of the Mexican healthcare system has also contributed to inefficiencies related to the disruption of health insurance coverage among employees who have lost or changed jobs.** Patients who change labor market status immediately lose their health insurance affiliation. As there is little coordination among health insurance schemes, this can disrupt the continuity of care and lead to complications in patients with chronic health issues.

²⁸ Government of Mexico, 2009, Federal Audit of Public Accounts Report.

²⁹ From a presentation by the Health Secretary during the conference “Towards Universal Healthcare Coverage,” held in February 2014 in Lima, Peru.

³⁰ National Commission on Social Protection in Health, 2014, “Financiamiento Estratégico del Sistema de Protección Social en Salud” PowerPoint Presentation.

58. **There are also productivity losses associated with the creation of Seguro Popular.** *Seguro Popular* health benefits are more extensive than the initial benefit packages offered by the service delivery networks of the state health secretariats and are closer to the benefits provided by IMSS. Bringing the benefits of the subsidized regime in line with those of the contributory regime could, however, create an incentive for firms and individuals to enter the informal labor market, thereby decreasing affiliation with IMSS and increasing affiliation with *Seguro Popular*. Studies attempting to estimate this effect have found a smaller than expected impact, particularly when compared to the positive impact of *Seguro Popular* on insurance coverage, healthcare utilization and financial protection.³¹ In addition, one study found evidence that many households view SPSS enrollment as a complement to social security enrollment rather than a substitute.³² It found that households not covered through the social security membership of the head of household or his or her spouse had the most significant decline in the probability of enrolling in social security.³³ Opting out of social security and enrolling in SPSS can provide the entire household with SPSS coverage, since it also extends to parents of the head of household, his or her spouse, and any dependents living in the home.³⁴

59. **Fragmentation of the healthcare system also reduces procurement efficiency, particularly for pharmaceuticals.** Until very recently each public health institution carried out most of its own pharmaceutical price negotiations and procurement processes, which resulted in large price differences across institutions. In the case of the health secretariats, each state is responsible for the procurement of pharmaceutical products, which resulted in large price variations and limited efficiency gains from large volume procurements and from stronger positions at the negotiation table.

60. **Important efforts have been made both across the health sector and within individual institutions to improve the efficiency of pharmaceutical procurement.** The authorities are striving to reduce price variations and lower prices for both single-source pharmaceutical products and multisource generics. These efforts have generated important savings, but will need to be strengthened to further increase procurement efficiency.

61. **The creation of the Coordinating Commission for Negotiating the Price of Medicines and Other Health Inputs (*Comisión Coordinadora para la Negociación de Precios de Medicamentos y otros Insumos para la Salud, CCPNM*) in 2008 was a key step in increasing the efficiency and effectiveness of pharmaceutical product procurement.** The CCPNM regulates prices for single-source products, regardless of whether they are under a patent. Innovator products represent 15 percent of the value of the pharmaceutical market in Mexico. They represent just 0.9 percent of the volume of purchases carried out by the public sector; however, since the public sector buys most of the country's biotechnological products, innovator products represent 38.7 percent of the value of pharmaceutical products purchased by the public sector in Mexico.³⁵

62. **The CCPNM was created to enable all public sector health agencies (IMSS, ISSSTE, and the Health Secretariat), as well as the Secretariat of Economy and Secretariat of Finance and Public Credit, to negotiate jointly with providers and determine a single nationwide procurement price for one year.** Since its creation, the CCPNM has yielded significant savings in the procurement of single-source pharmaceuticals. However, data from the first rounds of negotiations showed significant room for efficiency gains in the case of antiretroviral drugs (ARVs). While prices for ARVs dropped by an average

³¹ "Mexico's System of Social Protection in Health and the Formal Sector." From a seminar held in June 2012 at the World Bank, Washington, DC.

³² Kurowski and Villar, 2012.

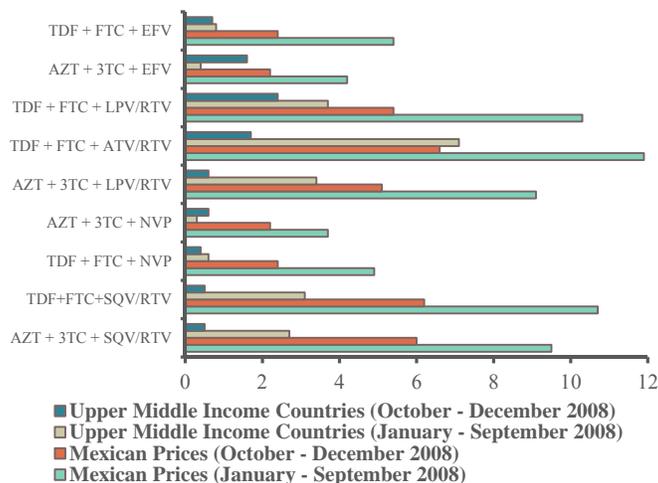
³³ Aterido et al. 2011.

³⁴ Kurowski and Villar, 2012.

³⁵ FUNSALUD, 2013.

of 38 percent after the first round of negotiations, Mexico continued to pay an average of six times more for ARVs than other upper-middle-income countries at the time.

Figure 6.21: ARV Procurement per Patient per Year, Pre-negotiation, Post-negotiation and Median Upper-Middle-Income Country Prices



Source: A. Adesina, V. J Wirtz, and S. Dratler, 2012

Note: Expressed in 2009 US dollars

63. **In 2008, 2009 and 2010 the CCPNM negotiated prices for 155 products, and each year the agreed upon prices were significantly lower than the pre-2008 prices.** Efficiency gains were also achieved by replacing expensive name-brand drugs with equally effective generics.³⁶ The large savings achieved through these negotiations underscores the importance of strengthening the CCPNM’s capacity by adding more permanent staff with high levels of technical expertise, introducing performance indicators, and ensuring better coordination between institutions in preparing background materials.³⁷

64. **Another important measure to improve the efficiency of pharmaceutical procurements in the public sector was the implementation of a consolidated procurement process for generic pharmaceutical products, medical supplies, radiological material and vaccines in 2013.** IMSS heads the consolidated procurement process for the health sector. In 2014 the consolidated procurement process was the largest of its kind in Mexico. It encompassed 10 processes for a total of 1,800 pharmaceutical products. The estimated savings from this process over the previous year was about MXN 3.1 billion for generic pharmaceuticals and close to MXN 600 million for innovator or branded pharmaceuticals.³⁸ These savings were due not only to large volumes and stronger negotiating power, but also to the use of reverse bidding processes.

65. **In 2014 the following purchasing institutions participated in the consolidated procurement process: IMSS, ISSSTE, PEMEX, SEDENA, SEDMAR, four federal hospitals, and the states of Baja California, Campeche, Colima, Tlaxcala and Veracruz.** The consolidated procurement process is coordinated with the Secretariats of Finance and Public Credit, Economy, and Public Functions, as well as representatives of the pharmaceutical industry. Given the demonstrated savings potential of this process, expanding its scope to include other federal entities could yield significant efficiency improvements.

³⁶ Gomez-Dantes et al., 2012.

³⁷ Ibid.

³⁸ IMSS, 2014.

66. **Finally, the authorities have taken steps to strengthen efficiency incentives within *Seguro Popular* and improve pharmaceutical procurement among state health secretariats.** Under *Seguro Popular* the states can use up to 30 percent of federal transfers to procure covered pharmaceuticals. To reduce price variations, agreements between the states and the National Commission for Social Protection and Health contain a provision stating that pharmaceutical purchases should be based on a predetermined list of reference prices. The use of these reference prices was formally mandated in the General Health Law in 2014. States were previously allowed to pay up to 20 percent more than the reference price, but starting in 2014 this margin shrank to 5 percent. Reference prices are based on the prices negotiated by the coordinating commission (for single-source products), as well as the prices negotiated in the consolidated procurement processes (for generics). Reference prices for covered pharmaceuticals that are not included in either process are determined jointly by the Health Secretariat jointly with the Commission.

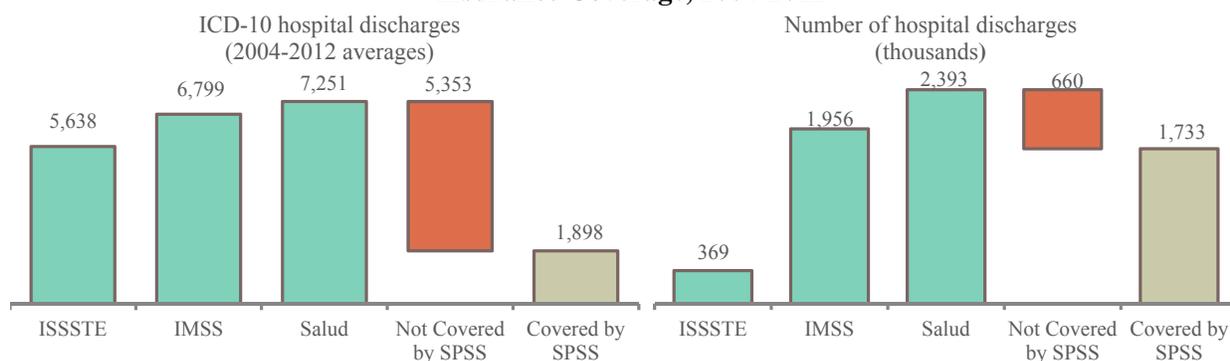
67. **A 2014 amendment to the General Health Law also included a provision for in-kind transfers of certain resources to the states for *Seguro Popular*.** Vaccines, for instance, are provided as an in-kind transfer to the states. This reform also stated that financial resources for procurement of pharmaceutical products could be deposited either directly into state treasuries or to accounts held by the state purchasing agencies established for *Seguro Popular*, the State System for Social Protection in Health (*Régimen Estatal de Protección Social en Salud*, REPSS) at the Federal Treasury. However, for this process to function effectively, and without disrupting the stock of pharmaceuticals, states must improve their management of existing stocks and more accurately predict future demand. This would avoid the emergency procurement of pharmaceuticals, which tends to be expensive due to the low volume of items procured.

68. **In an effort to improve the availability of pharmaceuticals in public health facilities, some states have contracted private firms to lead the procurement, distribution and stock management of their pharmaceutical products.** Anecdotal evidence suggests that these arrangements have improved the availability of drugs in health facilities. However, a thorough cost-benefit assessment is needed to determine their overall impact.

Equity Implications

69. **The fragmentation of the health system also leads to inequalities in entitlements between those insured by social security schemes and those insured by the SPSS.** Different subsystems offer different packages of services. For example, IMSS and ISSSTE cover services at all levels of care, although their entitlements are not fully explicit, while the SPSS covers primary and secondary care and a limited set of highly complex health services. The left panel of Figure 6.22 shows the number of conditions covered by each insurance scheme, using hospital discharges according to the categories of the International Statistical Classification of Diseases and Related Health Problems, version 10 (ICD-10). The right panel shows the total number of actual hospital discharges by insurance scheme. Although the number of ICD-10 conditions covered by IMSS is about three times as high as those covered by the SPSS, in practice SPSS covers the most common diseases based on overall hospital discharges.

Figure 6.22: ICD-10 Hospital Discharges and Total Number of Hospital Discharges by Type of Insurance Coverage, 2004-2012



Source: Unidad de Análisis Económico con base en información de la Secretaría de Salud; DGIS; Sistema de Egresos Hospitalarios.

Note: Here *Salud* refers to services provided by the federal and state health secretariats.

70. **There are also differences in the availability of human and physical resources across health insurance schemes.** PEMEX has many more healthcare personnel per beneficiary than any of the other public health institutions. There are moderate differences in personnel per beneficiary between the health secretariats, IMSS and ISSSTE. IMSS has the fewest doctors per beneficiary, but the disparity is not large and, when analyzing the data in terms of actual users (as opposed to enrolled beneficiaries), ISSSTE has the fewest doctors. ISSSTE also has the fewest nurses, both per beneficiary and per user.

Table 6.7: Number of Beneficiaries/Users per Health Human Resource and Equipment across Institution, 2013

		Health Secretariats	IMSS	ISSSTE	PEMEX
Doctors	Beneficiaries	705	777	709	289
	Users	362	410	485	289
Nurses	Beneficiaries	524	560	575	246
	Users	269	296	394	246
Paramedics	Beneficiaries	255	236	268	82
	Users	131	125	184	82
Hospital Beds (<i>camas censables</i>)	Beneficiaries	1,785	1,750	1,808	819
	Users	916	925	1,238	819
Mastography equipment	Beneficiaries	265,293	246,678	117,449	37,767
	Users	136,043	130,374	80,409	37,767
Ultrasound equipment	Beneficiaries	62,755	65,837	33,557	17,566
	Users	32,181	34,796	22,974	17,566
X Ray equipment	Beneficiaries	64,613	41,290	30,740	9,212
	Users	33,134	21,823	21,045	9,212
Endoscopies	Beneficiaries	367,662	410,542	461,097	31,473
	Users	188,538	216,980	315,681	31,473
Hemodialysis units	Beneficiaries	1,208,031	513,178	194,525	75,535
	Users	619,483	271,225	133,178	75,535

Source: Secretaría de Salud. Dirección General de Información en Salud. México 2012.

Note: Beneficiary data are based on reports by the social security schemes; the beneficiary population of the health secretariats is calculated as the difference between total population as per census data and that covered by social security. Users include all the population that actually uses the services of each provider.

71. **While the health secretariats, IMSS and ISSSTE all have a similar number of doctors per beneficiary, there are significant differences in the types of doctors employed by each institution.** The

social security schemes have a larger share of specialists than the health secretariats and IMSS-*Prospera*. The latter two also employ the largest number of recent graduates doing their mandatory year of social service. Primary healthcare at IMSS is usually provided by specialist family physicians, while services at the health secretariat are mainly provided by generalists and recent graduates. IMSS and the health secretariats both train physicians, and consequently they have a large number of interns, students in their last years of medical school, and residents training for a specialty.

72. **A 2012 performance evaluation of state primary healthcare facilities found important quality differences between facilities headed by doctors doing social service and those headed by titled doctors but which employed doctors doing social service.**³⁹ The evaluation found that pregnant women and patients with diabetes and hypertension received better quality services from the latter facilities, particularly for the treatment of diabetes and hypertension, although in general quality issues were found in both types of facilities. These quality-of-care differences have important efficiency implications, which are discussed in greater detail below. Greater support should be provided to these health workers to improve the quality of services.

Table 6.8: Public Health Institutions by Type of Doctor, 2012

	Health Secretariats	IMSS-Prospera	IMSS	ISSSTE	PEMEX
Doctors attending to patients	88,951	6,305	63,653	16,079	2,446
General	30,565	3,124	16,917	5,829	993
Specialists	37,237	397	32,534	9,315	1,453
Specialists (basic specialties)	15,748	54	12,802	4,230	462
Doctors in social service	8,263	1,869	0	10	0
Interns	3,785	0	4,293	191	0
Residents	6,953	854	9,909	719	0
Number of beneficiaries	67,649,723	--	57,475,897	12,449,609	755,346
Number of users	34,691,049	11,856,675	30,377,234	8,523,376	755,346

Source: Secretaría de Salud, Dirección General de Información en Salud, 2012

73. **There are considerable differences in the supply of major health equipment across public institutions.** IMSS and the health secretariats have similar amounts of mastrography and ultrasound equipment, but ISSSTE and PEMEX have a significantly larger stock. The health secretariats have slightly more endoscopy equipment than IMSS, though IMSS has a much larger supply of x-ray equipment and hemodialysis units than the health secretariats. Hemodialysis is not covered by *Seguro Popular*, but it is covered by IMSS, ISSSTE and PEMEX. Consequently, the availability of this equipment in state health secretariats depends on the availability of financial resources outside of *Seguro Popular*.

74. **PEMEX has by far the largest share of both human resources and equipment per beneficiary.** IMSS and the health secretariats have similar stocks of equipment and human resources specific to the services covered by both institutions. However, IMSS has far more of the necessary equipment for treatments not covered by *Seguro Popular*.

THE EFFICIENCY OF MEXICO'S HEALTHCARE DELIVERY NETWORKS

75. **The organizational structure and functioning of the SPSS and social security schemes can potentially generate inefficiencies.** Mexico's public health insurance schemes integrate financing and service provision. Coupled with provider payment mechanisms unrelated to production, this can result in inefficiencies as the strategic purchasing of services (deciding what to buy, how often, and from whom)⁴⁰

³⁹ INSAD, 2012.

is precluded. In an effort to address this issue the government attempted to reorganize the public health networks, particularly SPSS. However, progress has been limited, and the internal organization and functioning of the state health services remain largely unchanged.⁴¹ While some states have made significant reforms, in general the country's insurance mechanisms have not been fully developed and state health services remain vertically integrated, that is, they still combine financing and service provision functions. Although REPSS, the state purchasing agents established for *Seguro Popular*, were created in the states, in general they do not function independently of the state health secretariats, which also manage the state-level provider networks. In addition, provider payments have remained largely unchanged, at least in the case of *Seguro Popular*. The situation is similar for the social insurance schemes, where financing remains integrated with service provision.

76. **There are a lack of incentives to increase production and improve the quality and efficiency of service provision.** With some exceptions, most notably the Fund for Protection against Catastrophic Health Expenditure (*Fondo de Protección contra Gastos Catastróficos*, FPGC), which is part of the SPSS, provider-payment mechanisms are not linked with service output. Under all insurance schemes, payments to most public healthcare providers are based on historical budgets with little or no incentives to contain costs. Most healthcare facilities, particularly primary care facilities, receive in-kind resources through the payment of salaries and the distribution of pharmaceutical products, medical equipment, and other inputs.

77. **In all health insurance networks there are opportunities for quality improvement that could potentially improve efficiency by reducing waste.** While not all quality improvements will result in efficiency gains, measures to curb the use of counter-indicated treatments and enhance patient safety would improve efficiency.⁴² For example, there is evidence that Cesarean sections (C-sections) are overused in the Mexican healthcare system. Mexico has the second-highest rate of C-sections per 1000 live births in the OECD (Figure 6.23). Although appropriate in certain cases, C-sections involve a major surgery and are associated with higher rates of complications and maternal re-hospitalization. In addition to their substantial health and safety risks, hospital costs for C-sections are significantly higher than for normal deliveries.⁴³ For example, the service fee for C-sections in the 2014 agreement for the integration of emergency obstetric care was MXN 16,328, while the fee for a normal delivery was MXN 8,381.⁴⁴ Lowering Mexico's rate of C-sections to the OECD average could have saved about MXN 3.13 billion, or 0.02 percent of GDP, in 2012 alone. That year, according to CONAPO data, the country had about 2.25 million births,⁴⁵ or about 393,247 more C-sections than what the country would have had at the OECD average C-section rate.

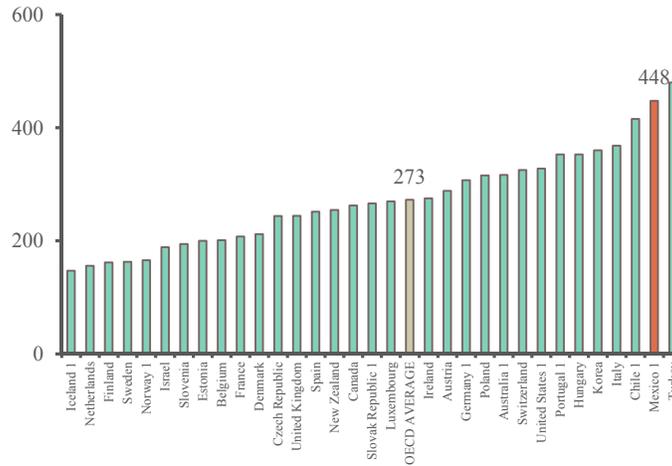
⁴¹ Kuroswki and Villar-Urbe, 2012.

⁴² IOM, 2001.

⁴³ Menacker and Hamilton, 2010.

⁴⁴ However, these numbers may not fully reflect real costs for all healthcare providers.

Figure 6.23: Caesarean Section Procedures per 1,000 Live Births, 2012 or Nearest Year

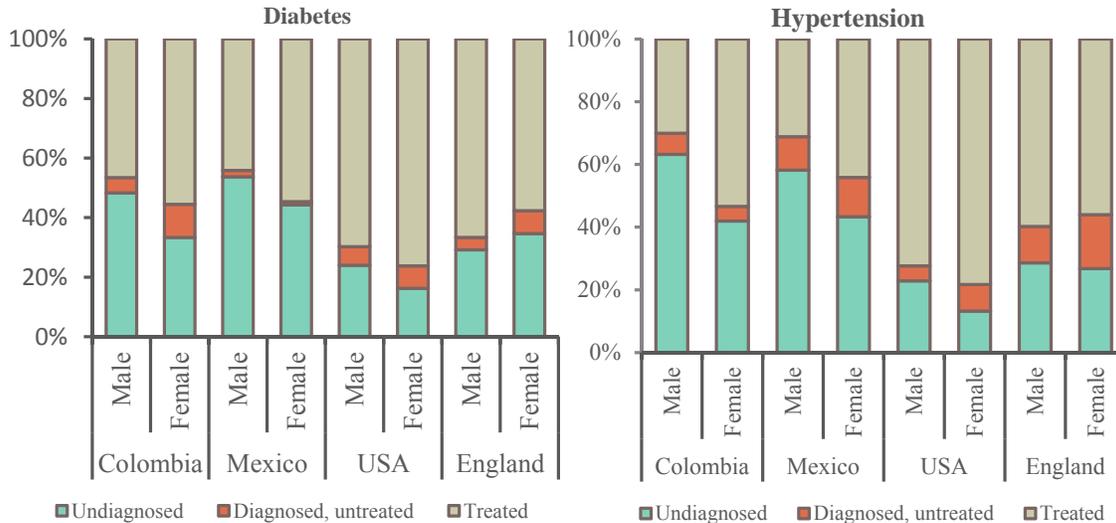


Source: OECD Statistics 2014.

Note: Data refer to inpatient cases only.

78. **Improving early detection and control of NCDs could yield further efficiency gains.** These are cost-effectiveness services, yet they are being under provided. Important gaps exist in diagnosis and initial treatment of NCDs in Mexico. For instance, a large percentage of Mexicans with hypertension and diabetes are unaware of their condition, and among those who are aware a large percentage are not taking appropriate steps to manage their disease (Figure 6.24). Mexico’s performance in this area compares poorly with both OECD countries and other middle-income countries in in LAC.

Figure 6.24: Diagnosis and Treatment of Diabetes and Hypertension

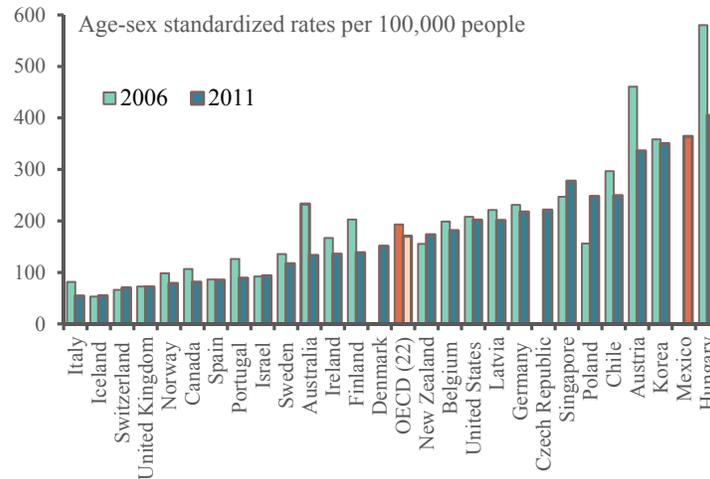


Source: Dmytraczenko, Tania, and Gisele Almeida, eds. 2015 based on data from Gakidou et al 2011.

79. **Inadequate early detection and control can result in dire health complications and unnecessary hospitalizations.** NCDs such as diabetes and hypertension are chronic conditions that require continuous contact with the health system to be effectively managed. Early detection and control help patients avoid serious complications such as chronic kidney disease, amputations, blindness and stroke, all of which require costly inpatient care and greatly reduce patient well-being. Among OECD countries for

which data are available, Mexico has the second-highest rate of avoidable hospital admissions due to diabetes complications (Figure 6.25).

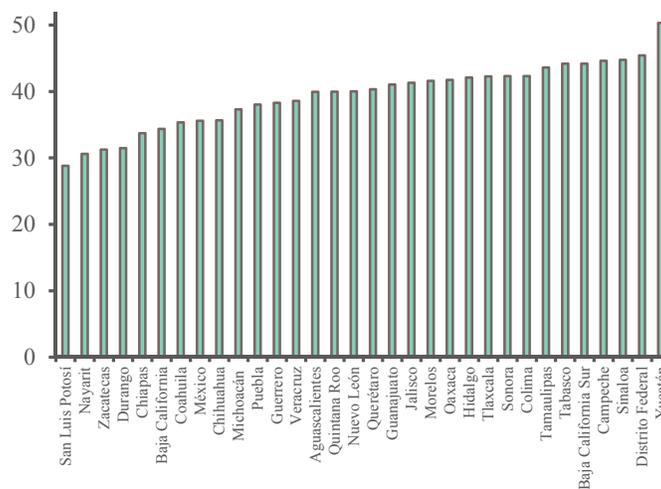
Figure 6.25: Diabetes-Related Hospital Admission in Adults, 2006 and 2011 or Nearest Year



Source: OECD Health Statistics 2013, <http://dx.doi.org/10.1787/health-data-en>.

80. **The large variations in performance not only across health insurance schemes but also within each provider network reveal ample space for quality and efficiency improvements.** In the examples described above, the use of C-sections and the management of hypertension and diabetes, there are large differences in performance between health insurance schemes and across states. Reducing these inequalities by shifting all providers towards the most appropriate treatments would increase quality and improve expenditure efficiency. For instance, according to DGIS data the share of total births in 2013 that were delivered by C-section ranged from 70-72 percent in ISSSTE and PEMEX to 29 and 35 percent in IMSS-PROSPERA and the health secretariats, respectively. These rates also varied significantly across states.

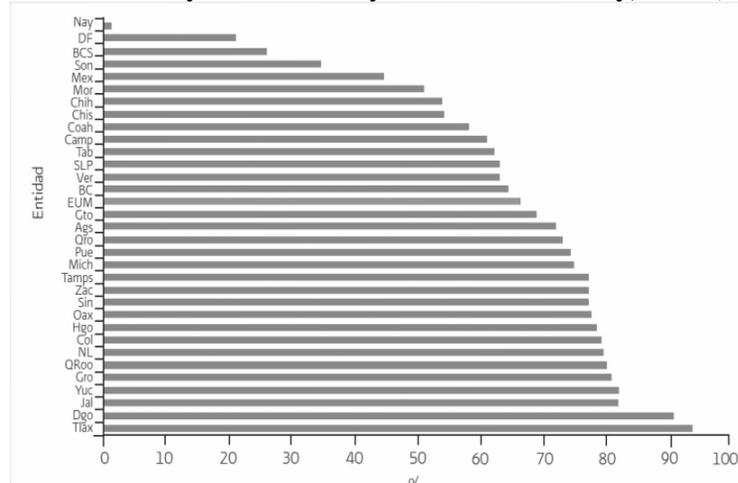
Figure 6.26: Share of Life Births Delivered by C-section across States and the Federal District, 2013



Source: SSA; DGIS

81. **Analyses of diabetes management reveal similarly large differences in the quality of care.** A 2008 study of the primary healthcare facilities of the state health secretariats found large disparities in adherence to protocol. For example, the percentage of patients whose blood glucose level was measured during their last consultation, a key test for diabetes management, varied widely between facilities.

Figure 6.27: Diabetes Patients Whose Blood Glucose was Measured during Their Most Recent Consultation by State Primary Healthcare Facility, 2008 (%)



Source: Health Secretariat, 2008

CONCLUSIONS AND RECOMMENDATIONS

Key Findings

82. **While health outcomes in Mexico have improved significantly in recent decades, some indicators remain lower than those of comparable countries in LAC and far below OECD averages.** Mexico has made considerable progress in combatting communicable diseases, but its health system now faces a large and increasing burden from NCDs, particularly diabetes and cardiovascular diseases. This trend is driven by an aging population and exacerbated by risk factors such as unhealthy diets, physical inactivity, tobacco use and alcohol abuse.

83. **Health expenditures have grown rapidly, but remain low compared to both other countries in the region and the OECD.** Private, largely out-of-pocket spending continues to represent half of all health expenditure. This is a regressive and inefficient way to finance health spending.

84. **The expansion of Seguro Popular has driven the recent growth of public health expenditures, but as the policy is now nearing full coverage of its intended beneficiaries, its pressure on expenditure growth should ease.** However, the health system faces many other challenges with major expenditure implications, particularly those related to the aging of the population and the structural cost of treating NCDs. In addition to the aging of the population, the development of new healthcare technologies, and an evolving disease profile, the public's increasing demands for more and higher quality health services will continue to raise the trajectory of health expenditures.

85. **The distribution of resources between those covered by social security and those not covered, and the distribution of public resources across states and income levels, have improved considerably over the years.** The financing mechanism for Seguro Popular has helped increase the equity of health spending. However, differences remain in the per capita resources of each health insurance scheme. These

differences are particularly acute for PEMEX and the armed forces schemes, which are far better funded than other insurance programs.

86. **While public funding for health is limited, efficiency and equity improvements could leverage the impact of existing resources.** The fragmentation of the system across multiple parallel insurance schemes results in redundancy, unequal access to services, and suboptimal utilization of human and physical capital. Moreover, the size and effectiveness of cross-subsidies among public health institutions are difficult to measure due to the lack of a unique roster of beneficiaries.

87. **There are also potential inefficiencies linked to the integration of financing and service provision within each health insurance scheme.** This precludes any opportunity for strategic purchasing and thus for getting the best value for the money. In addition, provider payment mechanisms are not linked to results. Instead, they continue to be based primarily on historical budgets, offering little or no incentive to contain costs or improve service provision

88. **There are opportunities for improving efficiency by reducing disparities in service quality across insurance schemes and across states.** Although not all quality improvements would necessarily result in cost savings some would, particularly those related to improvements in patient safety and those that curb the excessive use of counter-indicated services.

Policy Options

89. **Mexico has one of the lowest levels of public spending on health, both per capita and as a percentage of GDP, compared to other OECD countries as well as many LAC countries at similar income levels.** However, as a share of its budget Mexico's health spending is similar to its comparators. Low expenditure levels in the sector remain closely tied to low levels of revenue collection. More than two-fifths of Mexico's total health expenditures is OOP, which underscores that there are still opportunities to pool these resources and increase revenues.

Resource Transfers from the Central Government to the States

90. **It would be useful to explore whether resources that are currently transferred from Ramo 12 to the states to finance *Seguro Popular* could be linked to performance indicators, rather than dispersed on a purely per capita basis.** Since the Ramo 12 funds that finance *Seguro Popular* are at least as large as those spent on FASSA, performance incentives could have a major impact on expenditure quality, and performance criteria could be written into the coordination agreements between the central government and the states. Argentina's *Plan Nacer/Programa Sumar* could serve as an example of a successful performance-based federal health transfer system.

Differences in Cost Structures among Public Health Institutions

91. **The breakdown of expenditures by category varies widely between different public health institutions.** This is not solely a function of the different package of services they provide, though that likely has a meaningful effect, but of the cost of inputs, particularly human resources. Variations in the number of health personnel in each institution and their professional characteristics only marginally account for differences in personnel costs. Instead, cost differentials are driven by differences in employee benefits. The IMSS pension system currently represents the largest share of total personnel expenditures in that institution, even exceeding actual salary expenditures. This imbalance is not sustainable over time and further analysis is needed to determine options for lessening the financial impact of the pension regime.

The Organization and Functioning of the Health System

92. **Reorganizing the health system according to a more integrated, efficient and equitable model would be a long and difficult process, the first step in which would be the development of a long-term vision for the health sector.** This vision could be operationalized through a detailed roadmap that addresses key questions and tradeoffs. For example, should the system shift to a single financing pool with a single insurance plan and multiple provider networks? If so, what would happen to the existing insurance plans? Or should the system move to a single financing pool and multiple insurance plans? Would these plans compete for geographic areas or for beneficiaries, or would competition be based solely on performance? Would a multiple-plan system be able to eliminate inefficiencies through competition, or would parallel insurers simply increase waste?

93. **Separating financing from service provision is also a long-term process.** The reforms that introduced *Seguro Popular* aimed to do precisely this. However, progress has been limited so far, with the exception of the services financed by the FPGC.

94. **The *Seguro Popular* reforms also created agencies at state level, the REPSS, which were intended to function as purchasing agents working independently from the state health services.** However, in practice these agencies have not been autonomous, since they often depend on the Health Secretariat, which also manages the health delivery networks. A recent reform to the General Health Law has attempted to mitigate this weakness by increasing the independence of the purchasing agencies.

95. **The autonomy of purchasing agencies would not be sufficient to ensure that these agencies engage in strategic purchasing.** To achieve this, they would need to be able to form contracting arrangements with providers, including through performance incentives that link provider payments to results. For agencies to implement these contracting and payment mechanisms successfully, they would need information systems that can track provider performance and production costs.

96. **On the provider side, results-based contracting and payment mechanisms would require that service providers be able to respond to the incentives these mechanisms create.** Providers would need a significant degree of administrative autonomy and the ability to reorganize the use of resources (including human resources) to achieve the desired results. Currently, both public hospitals and public primary healthcare facilities lack any meaningful control over the amount or use of the resources they receive. This also implies a different way of remunerating human resources, which would require a civil service reform.

Short-Term Measures

97. **In the short term, Mexico has a number of opportunities to progress towards a more integrated healthcare system while at the same time improving overall performance.** Harmonizing information systems and quality-assurance mechanisms is an especially critical priority. The establishment of a unique roster of beneficiaries based on an individual identification system, along with harmonized clinical coding, standardized cost accounting, and integrated electronic information systems that include quality data would all yield important benefits.

98. **Progress has been made on some of these fronts, particularly in standardization of norms and regulations.** Some agencies are moving toward using the Single Population Registration Key (*Clave Única de Registro de Población*, CURP) as a unique identifier for beneficiaries of public programs. However, there are problems with the CURP, since not all Mexican citizens have one and some individuals have more than one. There is also a system for tracking the quality of services provided by all health delivery networks, called INDICAS, but the information that feeds the system is self-reported and not audited by a third party, which raises accuracy and reliability concerns.

99. **Important efforts have been made to improve coordination between different public health insurance schemes, which is a key step towards integration.** Some coordination tools have already been developed, such as the Master Plan for Infrastructure, which is helping improve the allocative efficiency of sector investments. However, full compliance with the Master Plan has not yet been assured. Another example is the current effort by DGIS at the Health Secretariat to generate a unique roster of beneficiaries by cross-referencing the different rosters used by the various social insurance schemes (including *Seguro Popular*) to identify and eliminate duplications and inconsistencies. Going forward, this effort will need to be strengthened and its results used to revise the allocation of public resources across insurance schemes.

100. **Another area in which improved coordination is beginning to generate significant efficiency gains is the consolidated procurement of pharmaceuticals.** In the short-term, the government could build upon the success of recent reforms in its pharmaceutical procurement system. It would be particularly important to increase the number of states that participate in the consolidated procurements processes and to review the cost-effectiveness of the public-private partnership arrangements that some states have established for the procurement and distribution of pharmaceutical products in public health facilities.

101. **“Exchange of services” agreements across the different health insurance schemes can provide a platform for increased integration.** The first such agreement at the national level was for emergency obstetric care, which established that any Mexican woman could receive emergency obstetric care in any public health facility regardless of her health insurance affiliation. Smaller-scale exchange agreements have been established in areas where local facilities are unable to meet the needs of all health scheme beneficiaries. This is the case of Baja California Sur, where the health secretariat, IMSS and ISSSTE have agreed to provide services for each other’s beneficiaries in the event that necessary services cannot be provided by the respective insurer in the locality where the beneficiary resides. These types of agreements are also being piloted in other states, which include priced lists for covered services. So far, these agreements have focused on either emergency care, or on enabling one institution to provide services to beneficiaries of another in areas where the latter does not have adequate facilities. These agreements are expected to become more common and more diverse in the coming years.

102. **The Health Secretariat is currently working on a pilot project that would allow all Mexican women to receive maternal care in the public institution of their choice, regardless of their insurance status.** Lessons from this pilot could provide important insight into the integration process. One major issue is that the health insurance networks have different models of care and different levels of resources, both financial and physical, and thus moving towards integration would require the harmonization of these models and the standardization of service quality. These differences are relatively modest in areas like emergency obstetric care, but are far more significant in the treatment of chronic conditions.

Improving the Functioning of the Healthcare Network

103. **In addition to the long-term objective of moving toward a more integrated health system, there are inefficiencies within each insurance and service delivery network that could be dealt with in the short-to-medium term.** Each of Mexico’s health insurance schemes includes certain facilities and providers that perform better than others. Harmonizing performance standards across facilities and ensuring that providers follow these standards, particularly for the early detection and control of chronic conditions such as hypertension and diabetes, would not only improve the quality of care but could also increase the efficiency of the health system by avoiding complications and unnecessary hospitalizations. Analyzing the health system’s best performers could yield important lessons, and strengthening supervision and monitoring systems could help standardize best practices across providers. For example, although some states have established quality controls aimed at reducing the rates of C-sections, these are not underpinned by performance incentives, and there are no major consequences for performing counter-indicated C-sections. Given the Mexican healthcare sector’s poor performance to date in the detection and control of

NCDs, effecting a major systemic change will require substantial investments in improving service quality in the healthcare networks so as to ensure continued and coordinated patient care.

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MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 7: Education



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EXECUTIVE SUMMARY

Mexico's public education system is the country's largest single employer and accounts for the greatest share of public expenditures of any sector. Due to projected demographic trends, the constitutional mandate to universalize secondary education and the increasing human capital demands of the evolving Mexican economy, the coming decade will see an unprecedented expansion in education coverage coupled with a sector-wide shift toward the secondary and tertiary levels. Together, these factors will generate a long-term structural increase in the cost of education, both in aggregate and marginal terms. As similar trends drive expenditure growth in the public health and social protection sectors, and as fluctuating oil prices remain a source of significant uncertainty on the revenue side, enhancing value for money in education spending will no longer be merely a desirable policy objective, but rather a fundamental imperative to support the progressive expansion and increasing sophistication of the education sector.

Intensifying the impact of education spending is not only a matter of fiscal necessity, it is also critical to the growth and competitiveness of the Mexican economy. To achieve the government's broader development objectives, the planned expansion in education coverage will need to be accompanied by a deep and sustained increase in education quality, as additional years of schooling have little impact on long-term economic growth unless accompanied by significant improvements in educational outcomes. Moreover, the inadequate quality of education spending has important equity implications, as persistent differentials in educational attainment threaten to exacerbate existing social and economic inequalities. This chapter analyses education spending in Mexico, situates its performance in the international context, and offers policy recommendations to increase systemic efficiency, address equity concerns, and enhance the impact of this crucial human capital investment.

Main Messages

1. **Current spending patterns exacerbate existing socioeconomic inequalities.** Education spending is largely directed toward urban centers, and urban schools exhibit significantly better outcomes than their rural counterparts. Over time this disparity is widening the economic gulf between Mexico's urban and rural areas. Spending on tertiary education is disproportionately large compared to spending on primary education, and the progressive distribution of public education spending at the primary and secondary levels is erased when the tertiary level is included. While tertiary education is intrinsically expensive, and its distribution is almost always regressive, spending seems to be more regressive over time. Finally, the allocation of financing across states perpetuates regional inequalities.
2. **Education spending heavily favors current expenditures over capital investment, resulting in a dearth of educational facilities and other core infrastructure.** This issue is particularly acute at the secondary level, and achieving the government's objective of universal secondary education will require a substantial increase in the capital budget. Though necessary to achieve sectoral policy goals, new investment will permanently increase recurrent spending commitments, compounding the rising expenditure pressures generated by trends in public health, social protection and other sectors.
3. **Pursuing short-term measures to enhance the quality of education spending could help alleviate expenditure pressures over the longer term.** In some cases, efficiency gains should be prioritized over scaling-up existing expenditures. For example, making better use of existing instructional time would be more effective than extending the hours of the school day.
4. **Increasing the quality of education spending at the secondary level will improve the equity of education spending at the tertiary level.** Efforts to reduce the dropout rate in upper secondary school will improve completion rates for students from poorer households, thereby increasing their chances to access

tertiary education. This will help make future tertiary spending less regressive. As noted above, reaching coverage targets in secondary education will require refocusing spending on capital investment.

5. **Education financing should more effectively incentivize positive outcomes.** Result-based expenditure allocations could promote major improvements across the education sector. Even incentivizing intermediate outcomes, such as coverage levels or graduation rates, could refocus education policy away from inputs and help to alleviate the budgetary intransigence that characterizes the majority of education spending in Mexico.

Conclusions and Recommendations

6. **Investing in early childhood development programs will promote positive long-term educational and economic outcomes.** Recent research estimates that each dollar spent on early childhood development programs in low- and middle-income countries generates an additional 7.8 to 17.6 dollars in economic growth. However, Mexico's budget for early childhood education is very low by the standards of comparable countries. Even within its existing budget Mexico could greatly improve the impact of early childhood development programs by better coordinating among programs.

7. **Financing mechanisms such as the *Fondo de Aportaciones Múltiples* could more effectively address educational needs and incentivize positive results.** Some federal programs use algorithms that rely on specific indicators and targets to determine co-financing from states through matching grants, allocate resources based on equity criteria or promote positive outcomes by rewarding performance. These principles should be applied to other aspects of educational financing such as financing for infrastructure.

8. **Policymakers should prioritize measures to enhance the quality of class time before extending the length of the school day.** Extending the school day has produced mixed results in Latin America and is unlikely to be the most cost-effective strategy for improving educational outcomes. Mexico is currently conducting an impact evaluation that will estimate the effects of extending the school day on a number of education variables. Policymakers should wait until the results of this evaluation are available before proceeding with an expensive increase in class time that may not be the most efficient means of advancing their objectives.

9. **Universal secondary education is mandated in the Mexican constitution, but reaching this goal will require a clear and comprehensive plan for investing in new educational infrastructure.** Establishing a dedicated budget line for capital investment in secondary schools would help realize the government's long-term education investment plan. Achieving universal secondary education will require substantially increasing the relative share of capital investment in total education spending.

10. **Tertiary education is inherently expensive, and greater efficiency would enable policymakers to achieve more ambitious objectives while containing the growth of expenditures.** Multiple types of tertiary education institutions have emerged over the years, and as in other areas of the public administration, the fragmentary structure of tertiary education prevents the formation of economies of scale, limits the coordinated use of scarce educational assets, and reduces the overall efficiency of the tertiary education system by enabling less effective institutional models to persist alongside their more impactful counterparts. Consolidating tertiary institutions by expanding the most successful models could reduce administrative costs and increase operational resources. Consolidation would also help to standardize course requirements, as some Mexican degree programs currently require more credit-hours of study than comparable programs in other OECD countries. According to one estimate Mexican university students must spend between 30 and 40 percent more time in class than students in the United States or Europe to obtain similar undergraduate degrees.

11. **At the sector level most elements of the education reform program are yielding positive results.** Teacher evaluations, increased school autonomy and the *escuelas de la reforma* have been especially successful. The results of the initiatives for *escuelas de tiempo completo* are less clear. Recent efficiency gains could be consolidated through an audit of the education payroll designed to eliminate ghost workers and double-dippers. A payroll audit would also reinforce the government's efforts to curb teacher absenteeism.

INTRODUCTION

1. **Mexico's public education system is the country's largest single employer and accounts for the greatest share of public expenditures of any sector.** Given projected demographic trends, the constitutional mandate to universalize secondary education, and the increasing human capital demands of the evolving Mexican economy, the coming decade will see an unprecedented expansion in education coverage coupled with a sector-wide shift toward the secondary and tertiary levels. Together, these factors will generate a long-term structural increase in the cost of education, both in aggregate and marginal terms. As similar trends drive expenditure growth in the public health and social protection sectors, and as fluctuating oil prices remain a source of uncertainty on the revenue side, enhancing value for money in education spending will no longer be merely a desirable policy objective, but rather a fundamental imperative to support the progressive expansion and sophistication of the education sector.

2. **More effective education spending is not only a fiscal necessity, it is also critical to the growth and competitiveness of the Mexican economy.** To achieve the government's broader development objectives, the planned expansion in education coverage will need to be accompanied by a deep and sustained increase in education quality, as additional years of schooling alone have little impact on long-term economic growth without sustained improvements in educational outcomes. Moreover, unequal spending levels have important equity implications, as persistent disparities in the quality of education services threaten to exacerbate existing social and economic inequalities.

3. **The following chapter analyses education spending in Mexico, situates its performance in international context, and offers policy recommendations to increase systemic efficiency, address equity concerns, and enhance the impact of this crucial human capital investment.** The findings of the analysis point to four overarching messages:

- i. **Mexico's current education spending patterns exacerbate inequalities.** Inequalities manifest themselves across three dimensions. The first is the gulf between Mexico's urban and rural areas. The second is the regressive distribution of tertiary education spending compared to spending on basic education. The third is the significant difference in financing levels across states, which is widening the gap between high-performing and low-performing regions.
- ii. **A number of priority inefficiencies can be corrected in the short term.** Policymakers could rapidly achieve important efficiency gains in several priority areas before implementing costlier long-term reforms. For instance, making better use of existing instructional time would be advisable before extending school hours.
- iii. **Increasing efficiency now will improve the equity of future spending.** For example, reducing dropout rates at the upper secondary level is critical to improving the pass rates of students from low-income households, thereby increasing their chances to access tertiary education, which will ensure that future tertiary spending is less regressive. Achieving coverage targets at the upper secondary level will require rebalancing spending toward capital investment.
- iv. **Education financing should incentivize results.** Linking nonwage compensation to results could promote positive change throughout the education sector. Even if incentives focused solely on intermediate outcomes, such as coverage targets or graduation rates, shifting focus from inputs to results could help break the inertia that characterizes education spending.

4. **The chapter is organized as into four sections.** The first analyzes recent trends in education financing, including the level, composition and allocation of spending. This assessment focuses on identifying outliers and other elements of interest. The second section considers the efficiency of spending,

evaluating the returns generated by public investment in education and comparing Mexico's performance against international benchmarks. The third examines inequalities in spending, both in terms of regional distribution and economic progressivity, and analyzes how funding inequalities translate into inequality in coverage and service quality. The final section explores opportunities for increasing the efficiency and equity of basic, secondary and tertiary education spending. While efficiency and equity are evaluated according to different criteria, these two concepts are clearly linked, as increased efficiency in education spending, especially in terms of retention rates and educational attainment levels among poorer students, will make the impact of future spending more equitable.

Education Quality

5. **This chapter does not present a comprehensive assessment of the quality of education services.** Improvements in education quality will increase the effectiveness and efficiency of education spending.¹ However, a thorough analysis of education quality in Mexico is beyond the scope of this chapter. Nevertheless, the chapter necessarily touches on these issues, presenting information on student learning as a proxy for education quality in order to evaluate systemic differences in educational outcomes.

Methodology

6. **This chapter uses a comparative approach to analyze education spending as well as a benefit incidence analysis to estimate the progressivity (or regressivity) of expenditures at various levels.** The comparative approach, which evaluates Mexico's education spending patterns against those of comparable countries in the OECD and Latin America, was selected over other methodologies, such as Data Envelopment Analysis, Stochastic Frontier Analysis or hybrid approaches, due to its relevance to the policy dialogue and the transparency of estimates and calculations. Primary data sources include official Government of Mexico spending data from the 2000-2014 public accounts (*Cuenta Pública*); official government annual reports (*Informes de Gobierno*); annual school censuses (*Formato 911*); main education indicators (*Principales Cifras*); the Questionnaire on State Educational Funding (*Cuestionario sobre Financiamiento Educativo Estatal*); school census data from the National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*, INEGI); and household-level data from the 2000-2012 National Household Income and Expenditure Surveys (*Encuesta Nacional de Ingresos y Gastos de los Hogares*, ENIGH). Additional sources include the National Council for the Evaluation of Social Development Policy (*Consejo Nacional de Evaluación de la Política de Desarrollo Social*, CONEVAL) and international data from the OECD's Programme for International Student Assessment (PISA).

TRENDS IN EDUCATION EXPENDITURES

7. **Education accounts for the greatest share of government expenditures of any sector, and Mexico is second only to New Zealand among the OECD in the share of public spending dedicated to education.** While overall spending² has increased significantly in recent years, Mexico remains well below the OECD average in terms of annual per student investment. However, the composition of spending in Mexico is a more pressing concern than the level of spending. The majority of education expenditures are in the form of salaries and subsidies, which is crowding out much needed capital investments in areas such as infrastructure and learning materials.

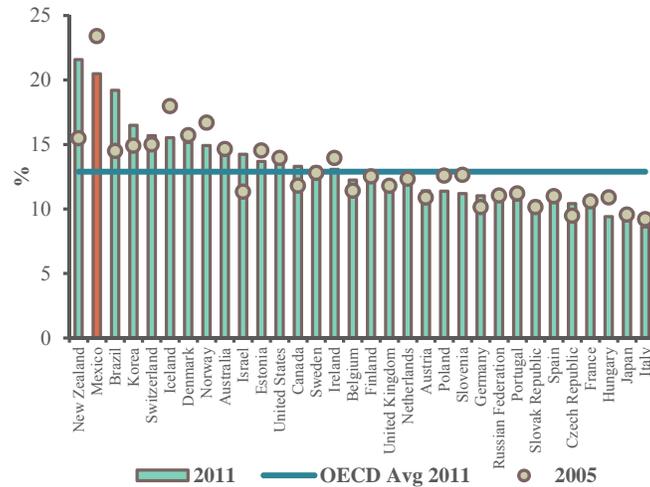
¹ Evans and Popova, 2015.

² According to OECD data public expenditures on education include public spending at all levels. Expenditures that are not directly related to education (e.g., culture, sports, youth activities, etc.) are not included in principle. Education expenditures by other ministries or equivalent institutions in other sectors such as health and agriculture are included.

Does Mexico Invest Enough in Education?

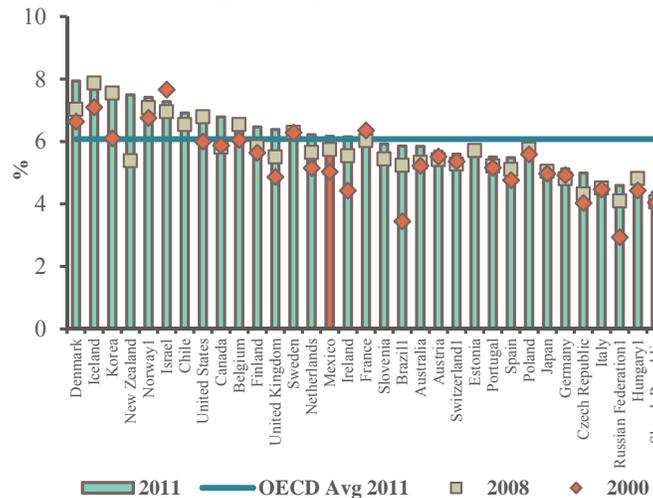
8. Mexico allocates 20 percent of its total public expenditures to education, the second-largest share among OECD countries (Figure 7.1^{Error! Reference source not found.}). Mexico invests more in education than in any other sector, including public health (13 percent). Education represents 6.17 percent of GDP, close to the OECD average of 6.1 percent (Figure 7.2). Public education spending has grown significantly since the early 1990s, outpacing the growth of private education spending over the same period (Figure 7.3).

Figure 7.1: Public Education Spending as a Share of Total Public Expenditures (%)



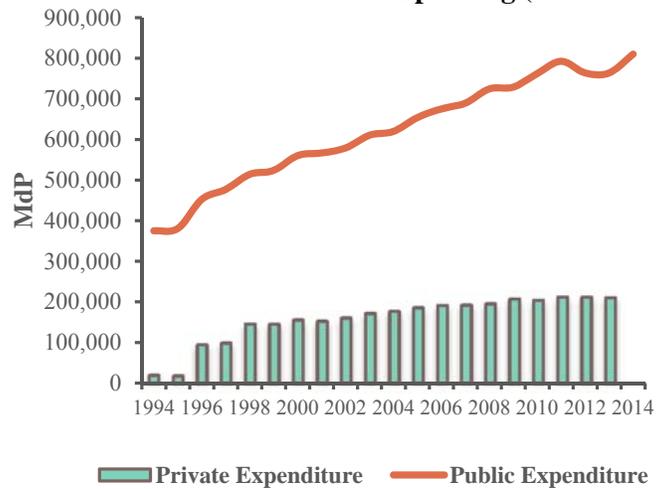
Source: OECD, 2014. Education at a Glance

Figure 7.2: Education Spending as a Share of GDP, All Levels (%)



Source: OECD, 2014. Education at a Glance

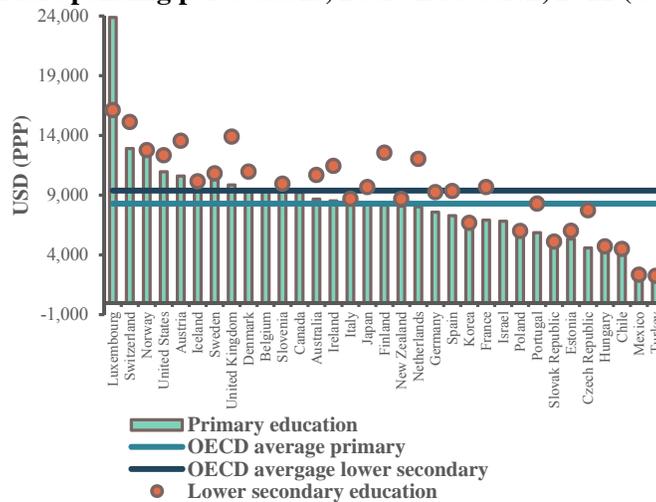
Figure 7.3: Public and Private Education Spending (constant 2012 prices)



Source: Instituto Nacional para la Evaluación de la Educación (INEE)

9. **In nominal terms Mexico spends only a third of the OECD average per student at the primary level (Figure 7.4).** Mexico spends an estimated US\$2,622 per student, significantly less than Chile (US\$4,551), the only other Latin American OECD member. Among OECD countries only Turkey spends less than Mexico (US\$2,218). Mexico's relatively low level of per student spending is partially a function of its relatively low overall budget. It also has the youngest population of any OECD³ country, with a relatively high proportion of students in basic education. Lower levels of schooling traditionally require less investment per student than higher, more resource-intensive levels.

Figure 7.4: Annual Spending per Student, Basic Education, 2011 (US\$ in PPP terms)



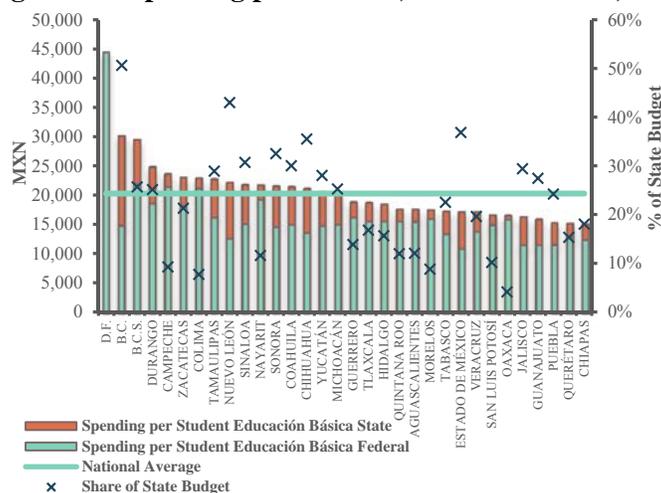
Source: OECD, 2014. Education at a Glance

10. **Mexico's low average level of per student spending conceals important expenditure differences between states.** Per student spending at the state level ranges from MXN 15,213 per student in Chiapas to more than MXN 30,000 per student in Baja California (Figure 7.5). This disparity correlates with significant differences in education coverage (**Error! Reference source not found.**), and schools at

³ <http://www.oecd.org/pensions/public-pensions/OECDPensionsAtAGlance2013.pdf>

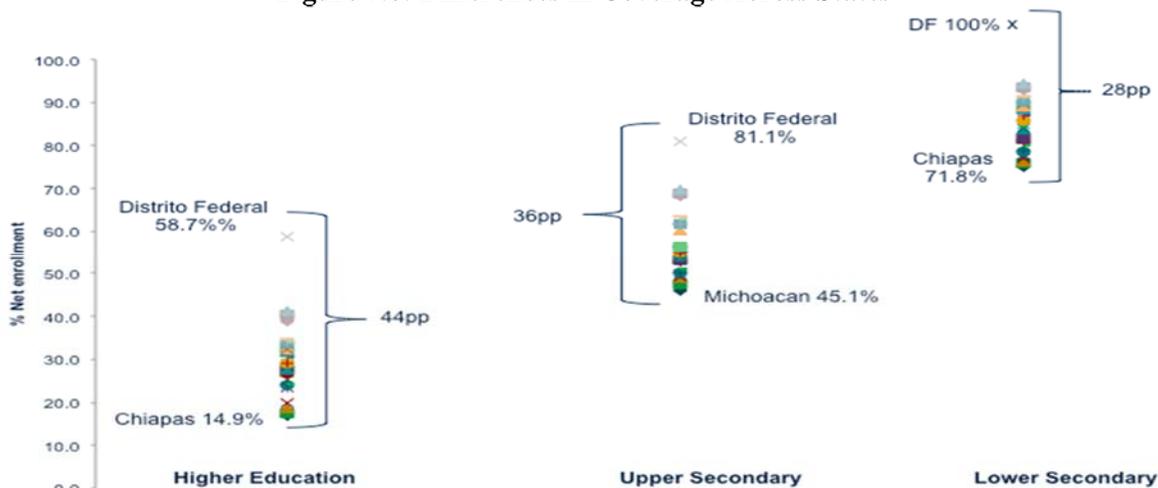
the bottom of the national distribution are often seriously under-resourced. For example, almost 30 percent of public primary schools in Chiapas lack functional latrines.

Figure 7.5: Spending per Student, Basic Education, 2013



Source: *Cuenta Publica* 2013, CIEP, 911. World Bank staff calculations

Figure 7.6: Differences in Coverage Across States



Source: ENIGH, 2012

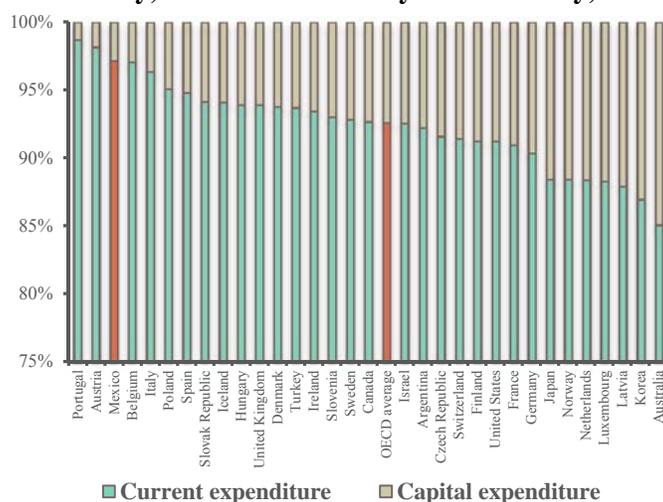
Is the Composition of Education Spending Appropriate to the Needs of Mexican Students?

11. Mexico’s education policies are rapidly expanding the supply of education services, particularly at the secondary level. A constitutional mandate passed in 2013 calls for universal and free upper secondary education.⁴ Recent legislative reforms are already having an impact on enrollment levels. Mexico experienced its greatest increase in upper secondary enrollment between 2012-2013 and 2013-2014, with more than 450,000 new students entering the upper secondary level.

⁴ Diario Oficial de la Federación. February 9, 2012.

12. **Capital investment in education has been persistently low.** Capital expenditures such as school infrastructure make up less than 4 percent of the 2015 education budget.⁵ This is consistent with previous budgets, in which capital expenditures have consistently accounted for between 3 and 4 percent of total spending. According to OECD data a full 97.1 percent of Mexico’s budget in education (not including Tertiary level) goes to recurrent expenditures, particularly teacher salaries. Mexico spends a larger share of its education budget on recurrent expenditures than almost any OECD country and is well above the 92.5 percent OECD average (Figure 7.7).

Figure 7.7: Distribution of Current and Capital Expenditure on Educational Institutions: Primary, Secondary, and Post-Secondary Non-Tertiary, 2011



Source: OECD Education at a Glance

13. **In 2014 the public education wage bill, including government transfers (*aportaciones*), represented 64 percent of total public education spending.**⁶ At the primary and lower secondary levels (“basic education”) the wage bill accounts for 82 percent of total education expenditures. The size of the wage bill limits the education system’s ability to innovate, as minimal resources are left for other current and capital expenditures.

14. **In April 2015 the Ministry of Education (*Secretaría de Educación Pública, SEP*) published, for the first time, the salaries and working hours of teachers paid by the Ministry of Finance (*Secretaría de Hacienda y Crédito Público, SHCP*).** Although the 2012 General Law of Governmental Accountability requires that each state make its wage bill publically available, this additional measure marks an important step in promoting greater transparency in the use of public funds. It was undertaken as part of the newly introduced Fund for Education Payroll and Operating Expenses (*Fondo de Aportaciones de Nómina Educativa y Gasto Operativo, FONE*), previously known as the Contributions Fund for Basic and Normal Education (*Fondo de Aportaciones para la Educación Básica, FAEB*). Preliminary analysis of wage data has suggested payroll irregularities.⁷

15. **Capital investments in both existing and new infrastructure are urgently needed.** Increasing enrollment levels have strained existing facilities and recent data from the school census (*Censo de Escuelas, Maestros y Alumnos de Educación Básica y Especial, or Censo Educativo*) highlights the gulf

⁵ According to OECD capital expenditures measure the value of purchases of fixed assets, i.e. those assets that are used repeatedly in production processes for more than a year. The value is at full cost price. Sales of fixed assets are not deducted.

⁶ Wage bill includes “*Servicios Personales*” (Chapter 1000) and “*Aportaciones*” (Chapter 8300 excluding 831103 and 83104) in the *Cuenta Pública* according to the *Clasificador por Objeto de Gasto* provided by SHCP.

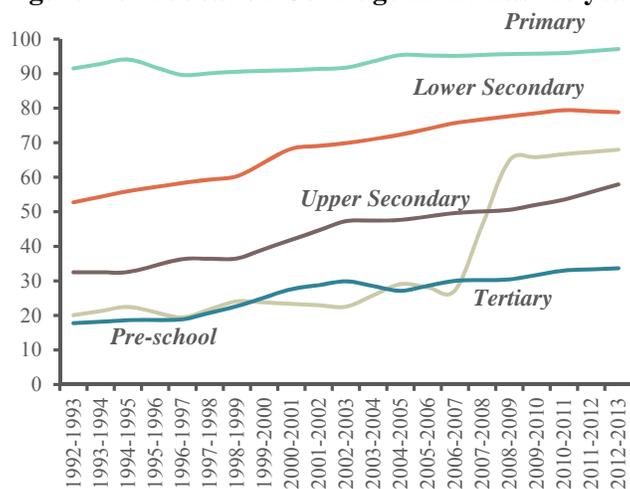
⁷ CIEP, 2015.

between the government’s policy objectives and the current state of the country’s educational facilities. Strikingly, 8.9 percent of public primary schools lack proper latrines, which has an especially negative impact on female students.⁸ The international experience indicates that investing in infrastructure is associated with higher levels of student learning. Glewwe (2012) summarizes the recent evidence from 79 studies around the world, finding that investments in buildings and furniture appear to have a measureable impact on school performance. There is some evidence that the presence of electricity contributes significantly to student learning, though this evidence is weaker when only the most robust studies are considered.⁹ Nevertheless, it is clear that the marginal returns to capital investment is highest in the most extreme cases,¹⁰ where investment may reduce overcrowding or rehabilitate school buildings that have fallen into severe disrepair.

Are Spending Allocations by Education Level Adequate?

16. **Over the last 30 years Mexico has increased coverage significantly at all education levels (Figure 7.8).** Coverage in upper secondary education has risen from 32.5 percent to 57.9 percent, while preschool coverage has increased sharply from 20 percent to 68 percent.

Figure 7.8: Education Coverage in the Last 20 years



Source: ENIGH, 2012

17. **Tertiary education has experienced the largest relative spending increase, which has come at the expense of basic education.** Figure 7.9 shows trends in spending by education level from 2000 to 2014. Over this period spending on tertiary education as a share of total public education expenditures rose from about 18 percent to nearly 25 percent, while the budget for basic education experienced a corresponding decline.

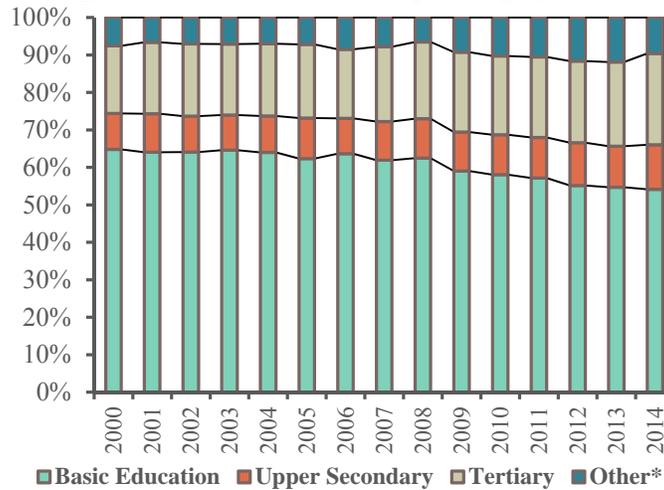
18. **Despite large increases in the coverage of upper secondary education total secondary education spending has remained stagnant.** While enrollment in upper secondary education has grown rapidly relative to most other education levels, the relative share of secondary education spending has failed to increase with it (Figure 7.9Error! Reference source not found.).

⁸ *Censo Educativo*, 2013. <http://www.censo.sep.gob.mx>

⁹ Glewwe, 2012.

¹⁰ Hanushek, 2003.

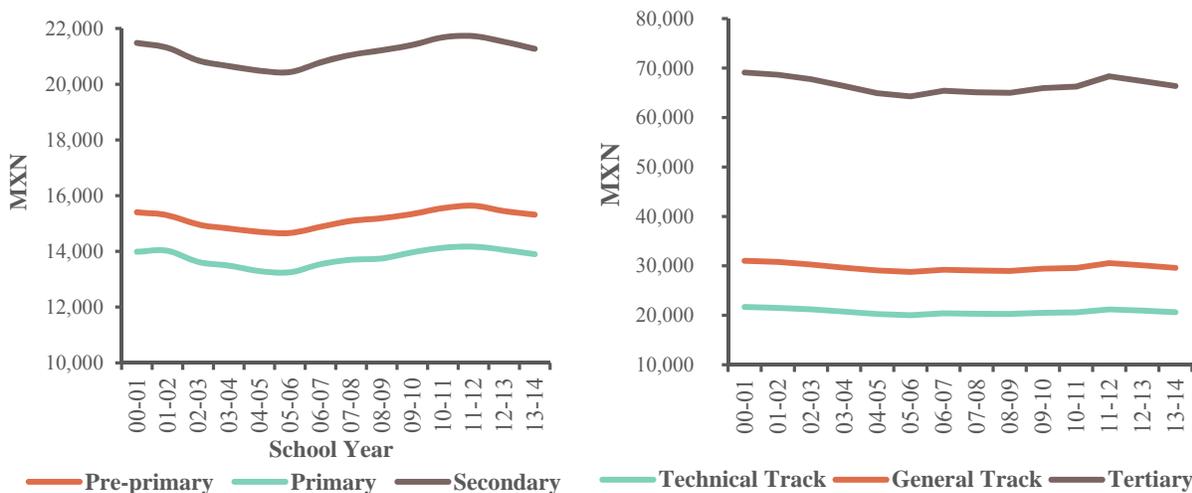
Figure 7.9: Share of Public Spending by Level



Source: *Presidencia de la República*, 2014. *2^{do} Informe de Gobierno*¹¹

19. **Due to the rapidly expanding share of tertiary expenditures in the overall budget, per student spending at the tertiary level is far higher than at all other levels.** On average Mexico spends between MXN 65,000 and 70,000 per student per year at the tertiary level. This is almost five times as much as at the primary level (Figure 7.10), whereas the OECD average is about double. ¹² Although tertiary education is inherently costlier than other forms of education, the magnitude of the difference in per student spending is unusually large. Mexico’s per student tertiary spending is estimated at 37.1 percent of per capita GDP, the highest rate in LAC. This would place Mexico well ahead of Brazil, which has the second highest rate at 30 percent.¹³

Figure 7.10: Per Student Spending in Real Terms



Source: INEE, 2014

20. **Examining average spending per student masks important disparities across schools.** For instance, the National Council for Education Development (*Consejo Nacional de Fomento Educativo*,

¹¹ Includes public spending for executive training, literacy, primary and secondary education for adults, strengthening of culture and sports, as well central administration expenditures.

¹² Bruns, Evans, and Luque, 2012.

¹³ CINDA, 2010.

CONAFE), Mexico's federal education service provider serving the most remote rural areas in Mexico, spends about MXN 8,000 per student at the primary level, whereas the national average for primary education spending is close to MXN 15,000.

How Much Does Mexico Invest in Children before They Enter the School System?

21. **Global data on basic education services also obscure large differences in how much educational investment children receive before entering the school system.** On average, Mexico invests US\$6,589 per child from birth until age six, the lowest rate among OECD countries and almost half the amount invested by Chile (US\$11,263). And within Mexico there is a wide disparity in the amount invested in each child.

22. **Inequalities in spending are already apparent before children enter the school system.** Preschool attendance rates for children between the ages of 3 and 5 are very unequal. Only 57 percent of children in highly and very highly marginalized communities attend preschool, compared with 94 percent of students in low and very low marginalization areas. As a result, 22 percent and 20 percent of five year olds attending community schools perform below the basic level in math and communication, respectively, far above the national averages of 9 percent and 6 percent.¹⁴

Demographic Projections and Their Implications for Education Coverage

23. **Demographic shifts over the coming decade will entail significant adjustments in education coverage.** Mexico currently has the youngest population in the OECD. However, the steep and ongoing decline in birthrates observed since the 1970s will continue to decrease demand for basic education. This could free up as much as 3-6 percent of the national education budget between 2015 and 2023.¹⁵ At the same time demand for upper secondary and tertiary education will continue to grow. To effectively address the sector's evolving circumstances, savings from basic education will need to be refocused on the secondary and tertiary levels. Assuming a savings of 3-6 percent, this could enable policymakers to double the growth rate of secondary and tertiary expenditures. Since the total population of 15-17 year olds peaked in 2011 and has since begun to decline, the demands of sustaining universal coverage in upper secondary education will also diminish over time. This would enable Mexico to achieve universal coverage in upper secondary education by the end of the decade.

EFFICIENCY

24. **Mexican policymakers have at least two clear opportunities to increase the efficiency of education spending.** The first involves the system's ability to ensure that high enrollment rates translate into high graduation rates, with students staying in school and progressing on time. The second deals with how classroom time is spent.

Snapshot of Efficiency Indicators

25. **Two key education indicators in Mexico reveal areas for improvement.** First, repetition rates are unnecessarily high. At the lower secondary level, the repetition rate is 11 percent and in upper secondary it is over 30 percent. High repetition rates lead to short-term inefficiencies, since additional years of instruction are needed to generate the same outcome. They are also potentially costly in the long-term, as they increase the likelihood of dropouts and lead to lower levels of education attainment.¹⁶ Second,

¹⁴ INEE.

¹⁵ INEE, 2015.

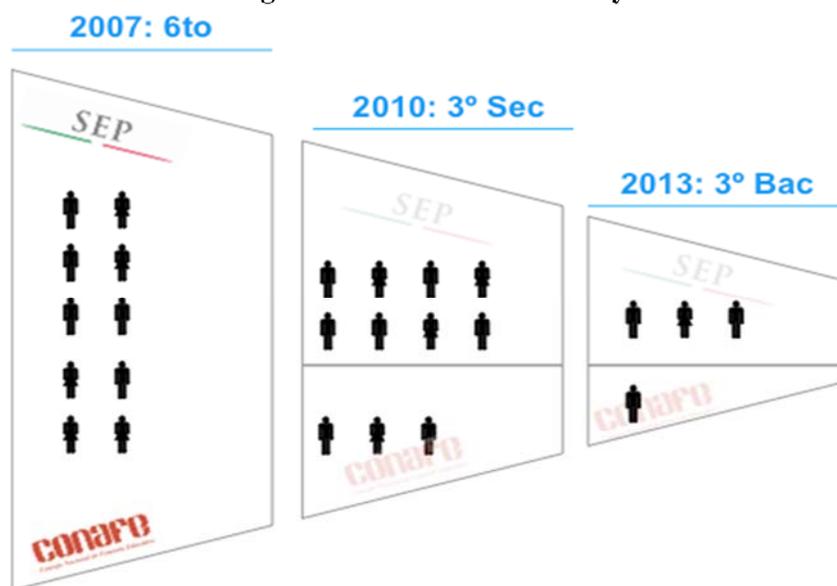
¹⁶ Manacorda, 2010.

completion rates in upper secondary are relatively low. The completion rate for all 15-19 year olds enrolled in Mexican schools in 2012 was 53 percent, well below the rates observed in Argentina (73 percent), Brazil (78 percent) and Chile (76 percent).¹⁷

Opportunities to Improve Internal Efficiency

26. **Despite high enrollment rates few students complete upper secondary education.** Using National Assessment of Academic Achievement in Schools (*Evaluación Nacional del Logro Académico en Centros Escolares*, ENLACE) standardized tests as a proxy for staying in school, a research project conducted for this PER followed a cohort of students from 2007 to 2013. The analysis observed students sitting for the grade 6 ENLACE test in 2007, as Mexico has already achieved near-universal enrollment in grade 6. Those students were then tracked through to the grade 9 ENLACE test in 2010, which is taken at the end of lower secondary school. Finally, the same students were tracked three years later, when they sat for the ENLACE grade 12 exam at the end of upper secondary school. Figure 7.11 summarizes the findings of this study.

Figure 7.11: Internal Efficiency



Source: World Bank calculations using ENLACE data

27. **For every 10 students that completed the grade 6 exam only 3 sat for the grade 12 exam 6 years later.** Moreover, there is evidence that completion rates are even lower among schools serving the poorest, most marginalized communities. In the CONAFE¹⁸ system, for example, only 1 out of 10 students complete their upper secondary exams on time. Mexico’s high rates of dropout and repetition contribute to its low completion rates.

28. **Moreover, in Mexican schools “time on task”—the amount of time when students are engaged in academic activity—represents too small a share of total class time.** Systematic observations of a representative sample of schools in Mexico City in 2012 revealed that nearly half of classroom instructional time was wasted. Given that these observations were carried out in one of the highest-performing school

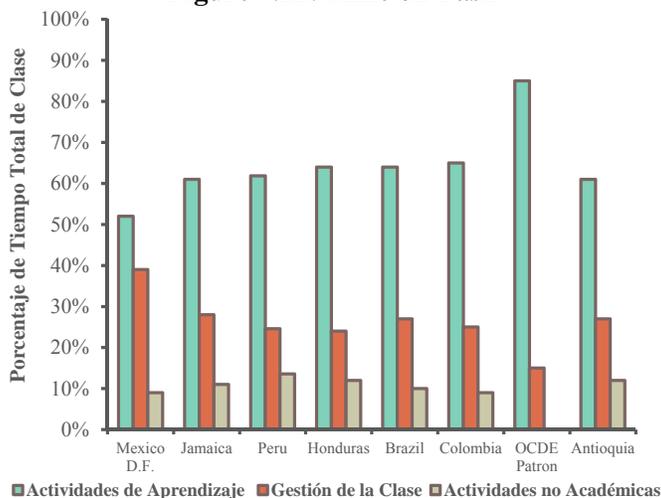
¹⁷ OECD, 2015.

¹⁸ CONAFE serves Mexico’s small, rural communities, accounting for about 320,000 students, between 1-2 percent of total enrollments in basic education.

systems in the country, and in light of the “Hawthorne Effect”,¹⁹ it is likely that the average classroom in Mexico is performing well below this average.

29. **Evidence from the Federal District suggests that Mexico ranks lowest among LAC countries (for which data are available) with respect to time on task (Figure 7.12).** More than 14,000 classrooms throughout the region were included in the study. Of particular concern is the percentage of time when teachers are socializing or outside the classroom, which is estimated at 9 percent. Another cause for concern is the relatively high proportion of classroom time spent on administrative tasks, such as taking attendance, providing instructions and disciplining students.

Figure 7.12: Time on Task



Source: Bruns and Luque, 2015

30. **Inefficiency directly contributes to poorer education outcomes in Mexico.** In the top 10 percent of schools students spent approximately 62 percent of classroom time on task. Classrooms in the bottom 10 percent had a time on task rate of just 51 percent. The positive correlation between time on task and student learning has been confirmed by studies in Brazil, Honduras and Colombia.²⁰

EQUITY

31. **An analysis of equity in the Mexican education sector reveals three key issues.** First, there are significant regional disparities in education spending, and the current system is not designed to bridge the large and growing gap in coverage levels. Second, the distribution of capital investment does not reflect established infrastructure needs. Third, spending at the tertiary level is deeply regressive and becoming more so over time. These equity issues blunt the potential impact of public education investments as an equalizer of economic opportunity.

Regional Inequalities in Spending, Coverage and Learning

32. **Large differences in education spending across states are correlated with significant disparities in both coverage and quality indicators.** States that spend more on education are consistently able to achieve better coverage and quality outcomes. At the upper secondary level coverage rates range

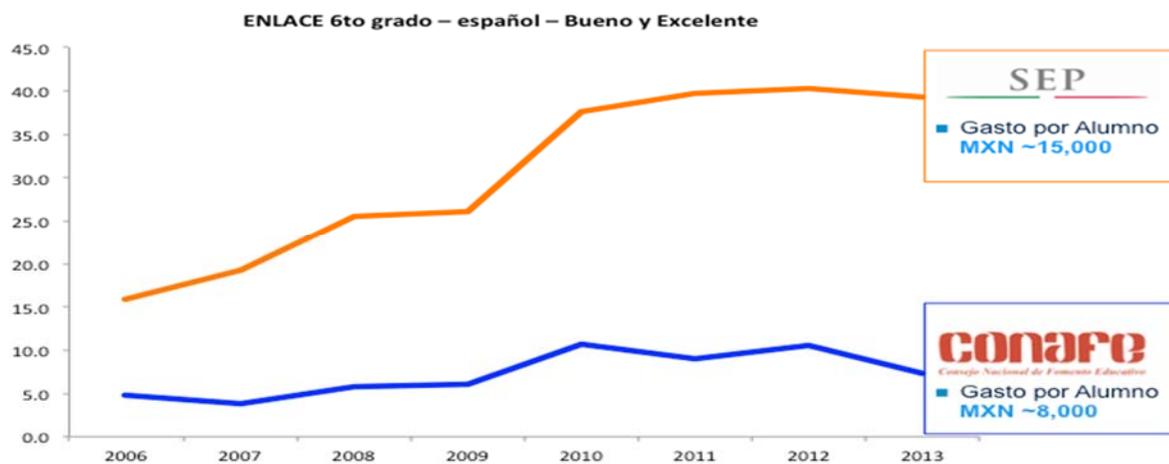
¹⁹ The “Hawthorne Effect” is the propensity of an individual or organization to change their behavior when they are aware that they are being observed; in this case, teachers who know they are being observed may be performing at higher than normal levels.

²⁰ Bruns and Luque, 2015.

from more than 80 percent in the Federal District to 45 percent in Michoacán. There is, moreover, a wide gap between states in terms of educational outcomes. According to PISA²¹ data Querétaro’s reading score is 451, well ahead of Chile (the regional leader), and comparable to Eastern European countries like Serbia and Slovakia. Guerrero, on the other hand, has Mexico’s lowest score at 368, well below that of the worst performing of participating countries (Peru).²²

33. **Differences in educational coverage and quality are especially pronounced between different education systems.** An analysis of average ENLACE scores (Spanish, grade 6) in CONAFE and non-CONAFE schools since 2006 reveals significant disparities. The proportion of students scoring ‘good’ or ‘excellent’ has increased from 16 percent to about 40 percent in non-CONAFE schools; by contrast, scores in CONAFE schools have remained broadly stagnant, increasing from only 5 to 7 percent over the same time period (Figure 7.13 **Error! Reference source not found.**).

Figure 7.13: ENLACE Scores, 6th Grade, Proportion Rated “Good” and “Excellent”



Source: World Bank staff calculations using ENLACE scores

34. **Even when controlling for poverty rates CONAFE schools underperform relative to schools in other systems.** 43 percent of CONAFE students living in highly marginalized communities score in the lowest ENLACE category, compared with 29 percent of non-CONAFE students. The results are similar in very highly marginalized communities, where 63 percent of CONAFE students score in the lowest ENLACE category, compared to 58 percent in non-CONAFE schools (Table 7.1).

²¹ Implemented by the OECD, the Programme for International Student Assessment (PISA) tests the knowledge and skills of 15-year olds, allowing for comparisons across countries. Scores are normalized such that 500 represents the OECD average, and a standard deviation is 100 points.

²² INEE, 2013.

Table 7.1: Performance Among CONAFE and Non-CONAFE Students

Very Highly Marginalized Communities						
2007	NON- CONAFE	CONAFE	Total	NON- CONAFE	CONAFE	Total
Inadequate	21,668	1,211	22,879	58 %	63 %	58 %
Basic	14,142	679	14,821	38 %	35 %	38 %
Good	1,332	41	1,373	4 %	2 %	4 %
Excellent	81	0	81	0 %	0 %	0 %
Total	37,223	1,931	39,154			
Highly Marginalized Communities						
2007	NON- CONAFE	CONAFE	Total	NON- CONAFE	CONAFE	Total
Inadequate	136,406	1,769	138,175	29 %	43 %	29 %
Basic	287,807	2,209	290,016	61 %	53 %	61 %
Good	46,775	167	46,942	10 %	4 %	10 %
Excellent	3,864	6	3,870	1 %	0 %	1 %
Total	474,852	4,151	479,003			

Source: World Bank staff calculations based on ENLACE scores

35. **Despite these differences Mexico invests only MXN 8,000 per CONAFE student, almost half the MXN 15,000 invested in each non-CONAFE student.** The CONAFE service-delivery model relies on community instructors with little training and often no more than a 9th grade education, which keeps costs low at the expense of quality. A cursory examination of infrastructure in CONAFE schools confirms the severe underfinancing of the system.

What Drives Education Spending in Mexico?

36. **Teacher salaries represent the bulk of Mexico's public education expenditures.** Education spending is heavily influenced by population size, since larger populations include more school-aged children, who require more teachers. Despite efforts in 2006 to introduce a results-based component to FAEB's education-financing formula the fund continues to operate on the basis of defined inputs, and funding is closely tied to the number of teachers reported by states. In its 2013 national budget review the Federal Superior Audit Office (*Auditoría Superior de la Federación*, ASF) reported that improperly used FAEB funds amounted to MXN 9.2 billion, or 2.8 percent of the FAEB budget.²³

37. **The centralization of teachers' salaries through FONE has helped improve the management of the wage bill; however, more could be done to contain spending.** Under the centralized payroll system, the Ministry of Finance has directly paid teachers' salaries since early 2015, while the Ministry of Education is charged with compiling a comprehensive list of teachers in the country. Significantly, the centralization effort included the public dissemination of teacher salary information under FONE. This represents an important step in promoting greater transparency in the use of public funds. Preliminary analysis of the public education wage bill has revealed several irregularities, such as the presence of ghost workers, which point to potential areas for cost savings. Of particular concern are teachers who hold several positions concurrently, as well as individuals who work for teachers' unions but do not instruct classes.²⁴

²³ ASF, 2015.

²⁴ <http://www.razon.com.mx/spip.php?article266395>

Furthermore, the analysis reveals several outliers in terms of actual salaries, with a handful of teachers receiving outsized compensations.²⁵

38. **Further refinements to FONE’s rule structure may present an opportunity to correct irregularities in the education wage bill and potentially improve the distributional equity of education spending.** Given that the fund is designed solely as a means to centralize teacher salary payments, the distribution of FONE resources does not take into account the current needs of the education system with regards to coverage and quality indicators. Redesigning FONE to allow states to keep leftover funding (or a portion thereof) would provide an incentive to eliminate inefficiencies in the payroll. While such a reform would require legislative action, in the long-term it could free up additional resources to finance an increase in capital expenditures or provide additional funding to address disparities in quality and coverage.

Box 7.1: Improving Equity in Education Spending, Evidence from Brazil

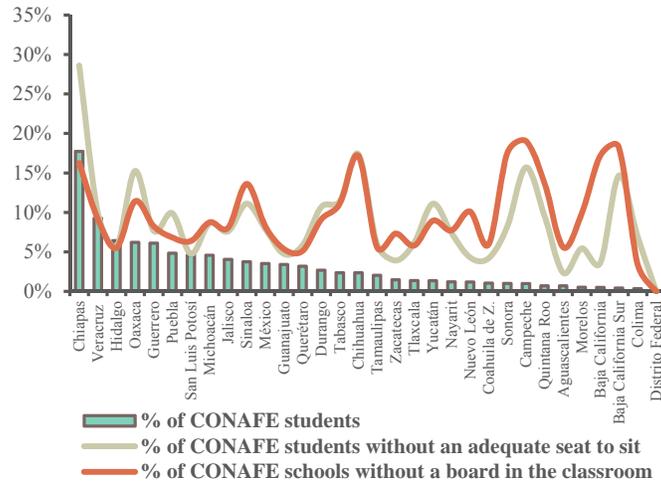
Prior to 1996 education financing in Brazil was governed by a population density formula that favored large cities and left small municipalities and schools with few resources. To make education financing more equitable Constitutional Amendment Number 14 was passed, creating the Fund for Primary Education Administration and Development and for the Enhancement of Teacher Status (*Fundo para Manutenção e Desenvolvimento do Ensino Fundamental e Valorização do Magistério*, FUNDEF, or as of 2006, FUNDEB). Under FUNDEF all municipal and state governments had to contribute 15 percent of the revenue from existing inter-governmental transfers to a state-level fund, and these resources were then redistributed according to each contributor’s share of the state’s enrolled students. This helped to increase the total amount of funding available for education, and it made the distribution of resources more equitable, since the federal government would cover the balance if fund receipts alone did not reach a federal minimum per enrolled student. The FUNDEF also introduced a requirement that 60 percent of the funds be allocated to salaries. As a result, salaries rose by an average of 13 percent, with some poorer states in the northeast seeing an increase of as much as 60 percent. FUNDEF is credited with increasing the number of teachers, improving instructional quality and raising enrollment rates in rural areas.

Source: Adapted from Evans, 2012 and OECD, 2010.

39. **The allocation of investment spending does not appear to be driven by a systematic assessment of needs.** While Baja California Sur received MXN 1,658 in capital expenditures per student for basic education in 2013, Chiapas received only MXN 435. There also appears to be a high degree of inertia in the geographic distribution of funds, especially in the case of the Multiple Transfer Fund (*Fondo de Aportaciones Múltiples*, FAM), as states and regions tend to receive very similar amounts year after year. The 2013 education census reported relatively high infrastructure needs in CONAFE schools as compared with public schools (Figure 7.14), which helped to draw attention to disparities between school systems. The increased attention presents an opportunity to increase the efficiency, equity and impact of public investment in education. However, even a more efficient, demand-driven allocation of existing investment funds will not cover Mexico’s sector-wide infrastructure needs. Rather, the government will need to permanently increase capital spending in order to provide adequate facilities for all students.

²⁵<http://busquedas.gruporeforma.com/reforma/Libre/VisorNota.aspx?id=5622017%7CInfodexTextos&md5=6505f6c6c75ee11249c082e67d3fa6ff>

Figure 7.14: Results of the 2013 *Censo Educativo* for CONAFE Schools



Source: World Bank staff calculations

Benefit Incidence Analysis: Does the Allocation of Funds Support Equal Education Opportunities?

40. **In Mexico, students from the poorest 20 percent of households receive about 27 percent of total public education spending, which is in line with the Latin America and the Caribbean (LAC) regional average.** The spending data encompass all public financing (including subsidies) to public education institutions, which is then compared against data from household surveys to estimate the distribution of spending by household income level.

41. **At the basic and upper secondary levels public education spending in Mexico is more progressive than the regional average.** A third of education spending goes to students in the bottom 20 percent of the income distribution, while the LAC average is slightly more than a quarter. This reflects the fact that households at the bottom of the income distribution tend to rely more heavily on public education.

42. **Spending on tertiary education, however, is deeply regressive.** A large proportion of relatively wealthy students receive tertiary education, many of whom attend highly subsidized public institutions. Forty-five percent of public spending on tertiary education accrues to students from the top income quintile, well above the LAC average of about 38 percent.

43. **Regressive spending on tertiary education diminishes the overall progressivity of the education system.** Figure 7.15 shows the substantial degree to which public funding for both basic and upper secondary education accrues to students from lower income levels. When spending at the tertiary level is factored in, however, the slope of the overall distribution becomes much flatter, reflecting the diminished progressivity of the distribution (Figure 7.16).

Figure 7.15: Distribution of Public Spending on Primary and Secondary Education by Income Decile, 2012

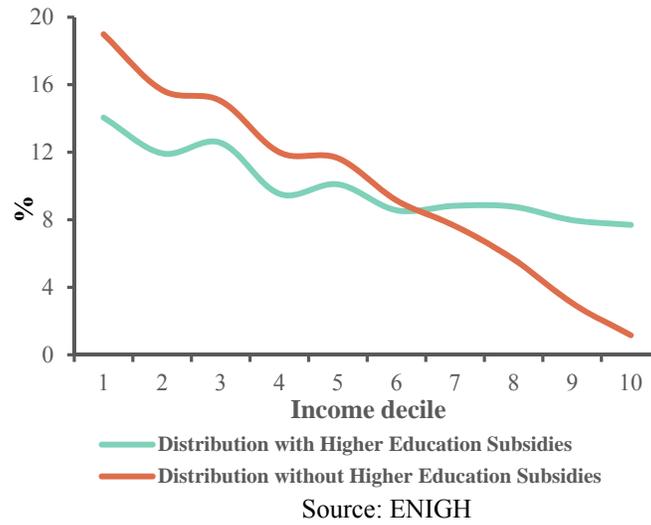
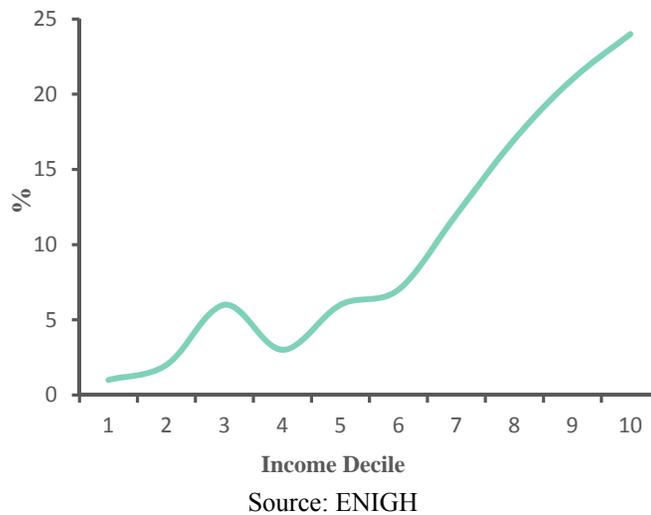
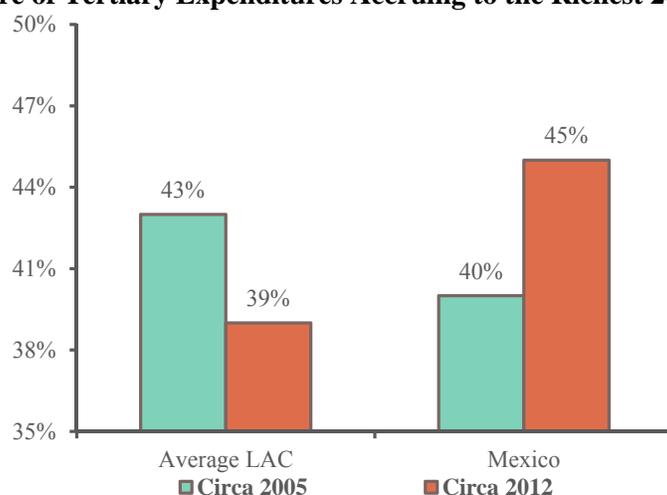


Figure 7.16: Distribution of Public Spending on Tertiary Education by Income Decile, 2012



44. **Moreover, tertiary education spending is becoming more regressive over time.** While the share of tertiary education expenditures allocated to students in the richest 20 percent of the income distribution declined over the last decade in the LAC region, it increased in Mexico (Figure 7.17). Mexico was one of just four countries for which data were available that demonstrated this trend, the others being Chile, Costa Rica and Ecuador.

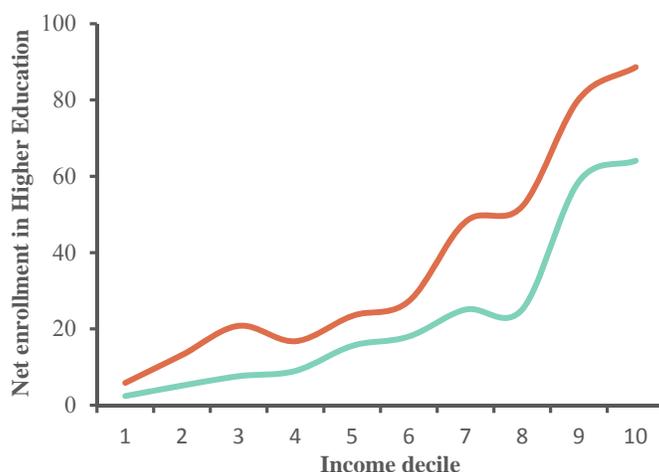
Figure 7.17: Share of Tertiary Expenditures Accruing to the Richest 20% of Households



Source: World Bank staff calculations from household survey data

45. **Access to tertiary education in Mexico has become increasingly unequal over the past fifteen years.** The evolution of access to tertiary education by income decile between 2000 and 2012 reveals that students from poorer deciles have barely increased their rates of net enrollment in tertiary education, while enrollment rates among the upper income groups have increased rapidly (Figure 7.18). This disparity is especially stark at the ends of the distribution, as net enrollment rates among students from the bottom decile increased from 2 to 6 percent, while enrollment rates in the top decile increased from 64 to 89 percent.

Figure 7.18: Net Enrollment Rate²⁶ in Higher Education by Income Decile, 2000 and 2012

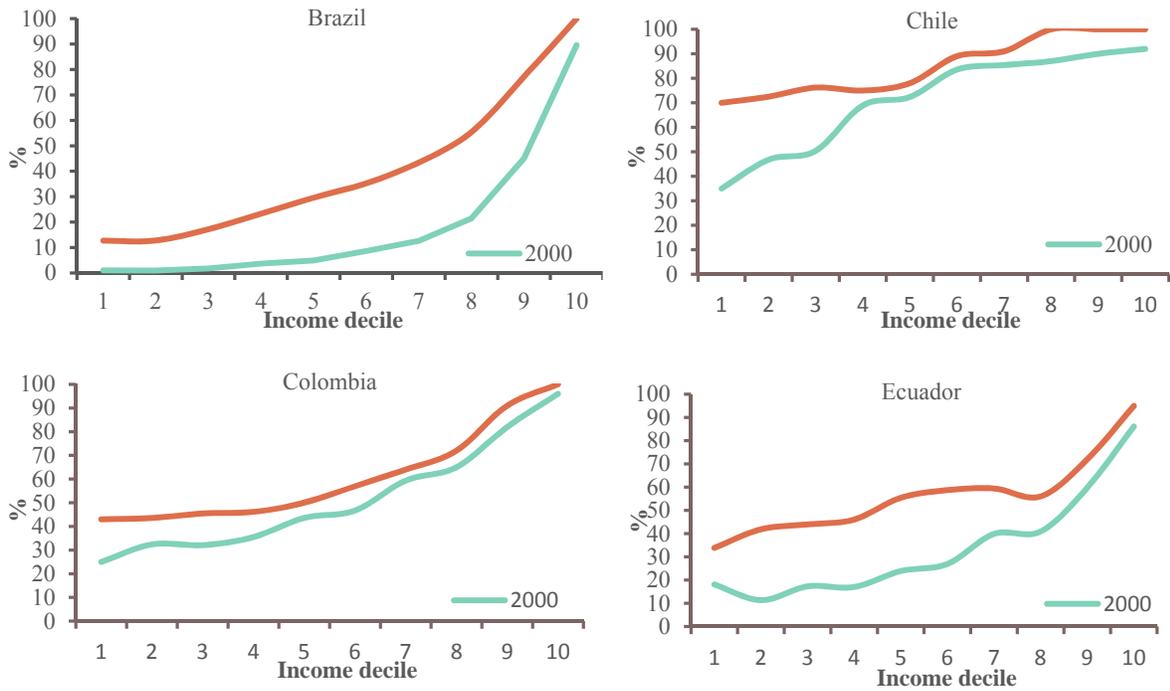


Source: Calculations based on ENIGH data

46. **Within the LAC region this trend appears to be unique to Mexico.** Other countries in the region are closing their tertiary education enrollment gaps over time, though the distribution of access to tertiary education access varies widely by country (Figure 7.19 and Figure 7.20)

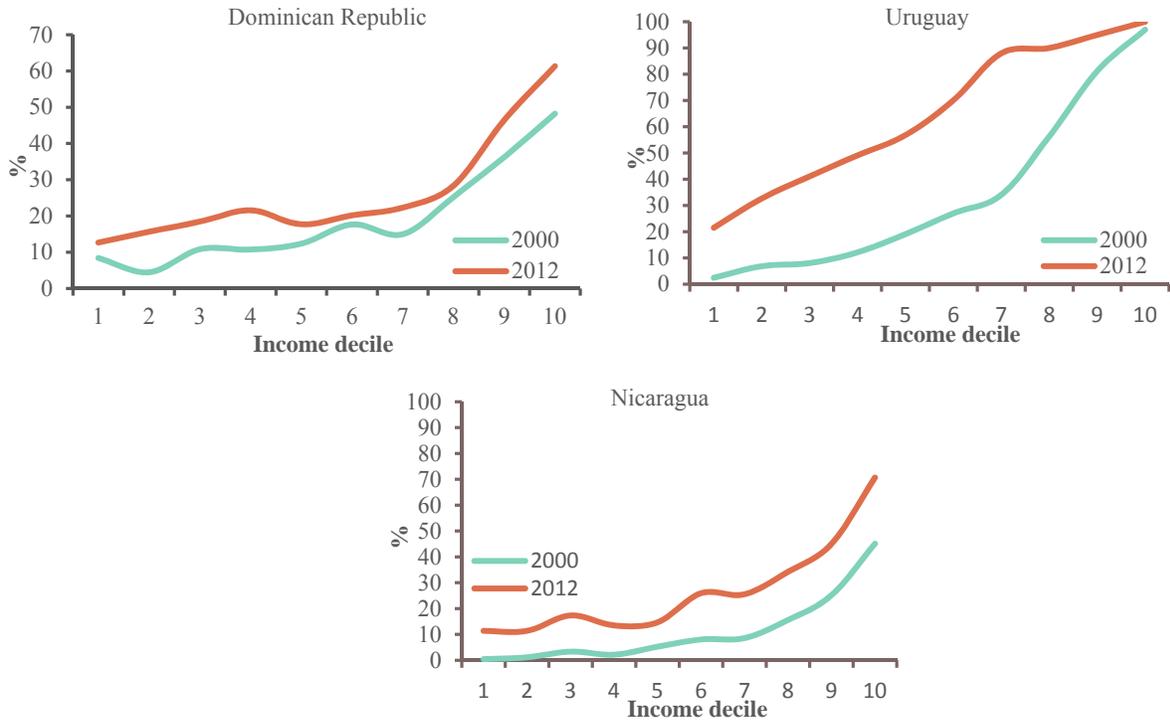
²⁶ Calculated as students having completed upper secondary education that continue to enroll in education, six years beyond expected graduation from upper secondary education for any given country.

Figure 7.19: Net Enrollment Rates in Higher Education by Decile, Circa 2000 vs Circa 2012



Source: World Bank staff calculations based on household survey data

Figure 7.20: Net Enrollment Rates in Higher Education by Decile, Circa 2000 vs Circa 2012



Source: World Bank staff calculations based on household survey data

CONCLUSIONS AND RECOMMENDATIONS

47. **While the Mexican government has taken important steps to increase education coverage, and the government's reform agenda is generally well-designed, there is scope for improving the equity, efficiency and impact of education spending.** This section presents a set of recommendations designed to further increase the quality of public education spending across all levels of the sector.

Linking Efficiency, Equity and Impact in Education Spending

48. **Equity and efficiency are closely linked, and increasing efficiency by improving retention rates and educational attainment levels among poorer students will make the impact of future spending more equitable.** Efforts to reduce the dropout rate at the upper secondary level will improve completion rates for students from lower-income households, thereby increasing their chances to access tertiary education. This will help make future tertiary education spending less regressive. Similarly, increasing time on task will generate the largest gains for students at the lower end of the income distribution.

49. **Enhancing the quality of education services will improve both the efficiency and equity of education spending.** Better schools will make spending more efficient by enhancing learning and, over time, accelerating economic growth. Better performing schools will also improve internal efficiency. Improving basic education will increase the rate at which students progress to upper secondary school. Not only will those students be more prepared to succeed at the upper secondary level, but improvements in upper secondary education will reduce secondary dropout rates and encourage tertiary enrollment. Shifts in institutional incentives can also lead to better education outcomes. For example, encouraging teachers to spend more time on task can help students perform better.²⁷

50. **In order to establish and maintain the core infrastructure necessary to achieve the government's education goals, capital budgets must increase substantially across the public education sector.** A large share of public schools currently lack the minimum level of infrastructure and resources necessary to operate. Students and teachers cannot achieve their full potential if schools do not have latrines, drainage systems, or even chairs and blackboards. Mexico now aims to increase upper secondary enrollment at an accelerated pace. The increase in upper secondary students will require investments in new schools and the expansion and renovation of existing facilities. Achieving this will require a modest but sustained increase in the share of capital expenditures in the education budget, as well as an increase in recurrent spending sufficient to finance their long-term operation.

51. **Investing early will pay higher dividends over the long term.** The international literature points to a positive and significant return to investing in early childhood development (ECD). A recent review of 30 ECD programs from low and middle-income countries found that 27 of the programs had positive impacts on cognitive and behavioral outcomes.²⁸ The cost-benefit ratio of these programs is also potentially high, ranging from an estimated 7.8 to 17.6 dollars for each dollar invested. Estimated spending on ECD in Mexico using OECD and World Bank data is just US\$6,589 per child in their first five years, barely half of what Chile invests (US\$11,263), and a third of South Korea's expenditures (US\$19,524).²⁹

52. **Enhanced coordination could greatly improve the effectiveness of ECD programs, even without increasing the level of education spending.** There is a nascent global literature on the gains to

²⁷ Bruns and Luque, 2015.

²⁸ Engle et al., 2011.

²⁹ Mexicanos Primero, 2014.

linking supply and demand efforts at the ECD level.³⁰ Recent studies have shown how such an approach between PROSPERA and CONAFE's *educación inicial* program in Mexico could impact child development from between .26 to .29 of a standard deviation. This required having the PROSPERA service-delivery chain actively inform its beneficiaries of the availability of CONAFE's services in communities where both were present.³¹

Opportunities for Basic Education

53. **Results from the recent education census underscore the need for greater capital investment in basic education.** Despite universal coverage in primary education, important supply gaps remain at both the pre-primary and lower secondary levels. While coverage at the primary level is high, school infrastructure is often dated and maintenance budgets have been low for years.

54. **In the short term the Educational Reform Program (*Programa de la Reforma Educativa, PRE*) represents a positive step toward improving education outcomes.** The program will invest an unprecedented MXN 7.5 billion in 2015 to address the needs of the lowest-performing schools, promoting more equal access to quality education. However, the current policy under the PRE of allocating only about MXN 50,000 to CONAFE schools, while non-CONAFE schools receive up to MXN 800,000, likely exacerbates an already unequal system. Although CONAFE schools tend to have fewer students, the cost of essential infrastructure (such as functioning latrines) remains largely the same regardless of school size. This implies that there is a minimum level of infrastructure investment required for each school.

55. **Over the longer term the allocation of FAM resources can be modified to better respond to needs and incentivize results.** Currently, the FAM is not designed to correct for systemic inequalities, nor does it provide an incentive for states to enhance their performance. Some federal programs use algorithms that rely on specific indicators and targets to determine co-financing from states through matching grants. Others allocate resources based on equity criteria or promote positive outcomes by rewarding performance. These principles should be applied to the FAM.

56. **The amount of time teachers spend on task can be greatly improved.** There are a number of ways in which the government can incentivize increased time on task. Training school directors in classroom observation techniques, and requiring that such observations be part of the evaluation framework for both teachers and directors, is a relatively low-cost means to encourage teachers to make better use of instructional time. Conducting classroom observations and publicizing the results would also help galvanize public support for paying more attention to how time is used in the classroom.

57. **A concerted effort to enhance the impact of existing class time should be undertaken before measures to extend the length of the school day.** Between 2013 and 2014 Mexico nearly doubled the approved budgets for all-day schools (*escuelas de tiempo completo*) from MXN 6.1 billion to MXN 12 billion. However, evidence from the LAC region on the benefits of extending the school day is mixed.³² Even assuming that it would have a significant positive impact on learning, extending the school day is not likely to be a cost-effective strategy, as in addition to the increase in paid hours for teachers and other staff, these policies tend to significantly raise overhead costs, especially for meals, utilities and infrastructure. While extending the school day could generate other positive externalities, such as reducing crime, increasing female participation in the labor market, or reducing teen pregnancy, these prospective impacts have not been thoroughly studied. Other options for achieving these objectives should be considered prior to extending the school day. Given that there is an ongoing impact evaluation in Mexico that will estimate

³⁰ Attanasio, O., et al., 200; IFPRI, 2013; and Barham, T., and Maluccio, J.A., 2008.

³¹ Fernald et al, 2015.

³² Holland, Alfaro, and Evans, 2015.

the effects of extending the school day on a number of education variables, it would likely be sensible to suspend the expansion of the school day until more evidence is available.

58. **Joint micro-level planning between CONAFE and SEP could improve education services for the poorest students, possibly without any increase in spending.** A detailed analysis of existing supply and demand would provide an opportunity to reassess current strategies for delivering educational services in remote areas. Although it is likely that the majority of CONAFE schools are located in areas where no other education options exist, there may be some overlap in the service areas of CONAFE and SEP schools.

Improving Supply and Demand in Upper Secondary Education

59. **The most cost-effective option to improve efficiency and, ultimately, increase equity in public education spending is to reduce the dropout rate in upper secondary schools.** This must remain central to the policies pursued by the Undersecretary for Upper Secondary Education (*Subsecretaría de Educación Media Superior*, SEMS). The high dropout rate in Mexico's upper secondary schools is associated with factors on both the supply and demand side, and corresponding supply- and demand-side actions will be required to address it.³³

60. **On the supply side, much of the dropout problem stems from a lack of preparedness among students entering upper secondary school.** Many students leave after their first semester, once it becomes clear that they don't possess the academic skills required to continue. Since these students are at or near the legal working age, most choose to leave school and enter the labor market.³⁴ Improving the quality of basic education will increase the preparedness of new upper secondary students, which in turn will improve retention rates.

61. **Accommodating a rapidly rising number of newly enrolled upper secondary students will create further challenges on the supply side.** Since 2012-2013 enrollment in upper secondary school has increased by a record 463,031 students. In order to remain on-track to meet the targets of the National Development Plan, over the next 4 years an additional 414,000 students will enter upper secondary school. This will increase the cost of upper secondary education by an estimated MXN 4.5 billion per year, and current rates of capital investment may be inadequate to meet rising demand.

62. **Achieving the goal of universal secondary education will require a well-designed and transparent investment plan to accommodate the influx of new students.** Under the current budget framework, it is difficult to distinguish the funds that will go toward expanding supply from the rest of the sector's activities. A dedicated budget line for financing new secondary education services, as part of a long-term investment plan for upper secondary education, would go a long way toward helping SEP fulfill its constitutional mandate and achieve universal secondary education. Relatedly, clarifying the respective roles of different educational systems and sub-systems active at the upper secondary level would greatly increase coordination efficiency.

63. **Community distance-learning centers for secondary education (*telebachilleratos comunitarios*, TBCs)³⁵ are likely to be a very cost-effective option for extending secondary education in rural areas, as they perform about as well as other educational options for rural students; nevertheless, there is still significant room to improve their quality.** As with the *Telesecundaria* program, TBCs offer a low-cost option for expanding the supply of education services to rural areas. The

³³ Bentaouet Kattan and Szekely, 2014; for a more complete review of options to reduce dropouts see World Bank, 2015a.

³⁴ World Bank, 2015a.

³⁵ *Telebachilleratos* are distance-learning centers housed in *Telesecundaria* schools. *Telesecundarias* were established by SEP as a way of increasing services at the lower secondary level in rural areas. TBCs expands this service to upper secondary using the same facilities.

Telesecundaria experience, however, shows that SEP must continuously strive to maintain quality. Comparing student performance in the first year of upper secondary in TBC with neighboring non-TBC schools reveals no statistically significant difference in the quality of instruction, as measured by test scores.³⁶ However, education outcomes are still far below those of urban schools. Although the TBCs are a promising strategy for reaching rural students, more work is required to establish development plans tailored to each locality that can properly match supply with demand.

64. **On the demand side, the SEMS scholarship programs continue to evolve, and the latest attempts to improve targeting are showing promising results.** There is significant global evidence, including studies from LAC, showing the effectiveness of scholarships in increasing enrollment, attendance, and completion rates at the secondary level.³⁷ At their inception the two main SEMS scholarship programs (PROBEMS and PROSPERA) sought to reach similar populations. Recent efforts to develop a more coordinated approach to selecting beneficiaries appears to have reduced duplication. There is some evidence that the SEMS scholarships, as originally designed, did not reach their intended beneficiaries, as many recipients were students from less poor households. Continued efforts to enhance targeting should be encouraged, such as the initiative to decentralize targeting to committees, which enables school-level agents to select scholarship recipients based on a more thorough knowledge of students at risk of dropping out. This approach shows significant promise for improving the efficiency of demand-side spending.³⁸ Indeed, early results from SEP indicate that only 7 percent of program beneficiaries have dropped out, less than half the national average of 15 percent.³⁹

Making Tertiary Education More Efficient

65. **There are a range of policy options for increasing the efficiency of tertiary education spending, both in terms of the tertiary education system as whole and within individual schools.** Mexico's tertiary education system is highly fragmented, and it has limited articulation with the previous levels of education. Several types of tertiary education institutions have emerged over the years, each with its own costs for management and administration, facilities and equipment, and student services. Some of these institutions could be consolidated to leverage economies of scale, freeing up additional resources for tertiary spending. Requirements for certifying graduates are sometimes excessive, and some programs demand more course credit and more hours of study than comparable programs in other OECD countries. According to one estimate, Mexican undergraduate students must spend between 30 and 40 percent more time in tertiary education institutions than students in the US or Europe in order to obtain similar undergraduate degrees⁴⁰. If properly aligned with international standards, a more efficient teaching time in tertiary education institutions could result in overall increased efficiency of the system.

66. **Tertiary spending must be more closely aligned with results.** The bulk of tertiary education resources are effectively determined by financing levels in previous years. Introducing results indicators into financing algorithms could help alleviate the inertia of education spending. Performance indicators for tertiary education institutions could include a mix of intermediate outputs, such as coverage rates, and final outcomes, such as graduation rates and post-graduation employment statistics. Once policymakers have improved graduation rates at the upper secondary level, tertiary spending could be partially linked to equity indicators. This recommendation is applicable not only to public but also to private institutions.

67. **Scholarships have not been successful in making access to tertiary education more equitable.** After decades of financing tertiary scholarships, access continues to be dramatically and increasingly

³⁶ CENEVAL, 2015.

³⁷ Barrera-Osorio et al., 2012; Filmer, D. et al., 2008; Heinrich et al., 2005.

³⁸ Silveyra, Holland, and Sánchez, forthcoming.

³⁹ SEMS, 2015.

⁴⁰ Clark and Monroy, 2013; Vries, León Arenas, Romero Muñoz and Hernández Saldaña, 2011.

unequal, suggesting that in their current form these programs are not having their intended effect. Careful consideration should be given to how grants and credits are assigned, including school-level incentives and mechanisms to enhance targeting.

68. **Lessons should be learned from the experience of institutions of tertiary education that have used administrative reforms to improve expenditure efficiency.** At the school level, consolidating similar programs and departments and introducing incentives for prudent fiscal management could yield positive results. For instance, from 2002-2009 the Autonomous University of Baja California was able to dramatically improve its financial management system through a process of administrative reorganization and decentralization designed to alleviate budgetary inertia and reduce administrative costs. Crucially, these reforms introduced incentives at the departmental level that rewarded efforts to generate new income, rationalize services, improve expenditure efficiency and reinforce sound financial management. These reforms reduced administrative costs by more than 13 percent, cutting per student costs by about 25 percent, which increased funds available for infrastructure and other capital expenses. Similar efforts have been conducted by other institutions but no systematic effort at the central level has been implemented to foster such change.

69. **Increasing the efficiency and equity of education financing is a long-term project, but short-term policy options could yield important gains.** The recommendations provided above offer a starting point for a broader program of policy reforms designed to set Mexico's education sector on a path toward mutually reinforcing increases in the efficiency, equity, and impact of education spending. Ultimately, the returns generated by investments in educational attainment will be fundamental to sustaining the long-term growth of the Mexican economy.

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MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 8: Social Assistance and Labor Programs



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EXECUTIVE SUMMARY

The Mexican government operates a relatively large number of social protection and labor programs, most of which are small in scale. These programs are designed to alleviate poverty, protect vulnerable groups from economic shocks and build the income-generating capacity of target populations. While social protection and labor programs represent a small share of the budget, the sector is growing rapidly, and it will face a set of complex challenges in the coming years.

The government has consolidated its major cash transfer programs, and policymakers are now expanding the focus of social assistance to encompass multiple dimensions of poverty and vulnerability. In recent years the government has established a range of programs aimed at improving beneficiaries' employment prospects and access to social services. This represents a programmatic evolution from cash transfers designed to combat monetary poverty to a more comprehensive integrated social protection framework.

Similar to the pattern observed in the health sector, Mexico's aging population will put increasing pressure on certain parts of the social protection system. Demographic change will cause services geared towards the adult and elderly population, such as labor market programs and social security payments, to become more expensive over time. This process will dovetail with concurrent trends not only in health, but also in education and public security, intensifying structural expenditure pressures over the medium-to-long term. Although spending on social protection and labor programs remains modest as a share of GDP, especially when compared with other OECD countries, the proliferation of programs is increasing the sector's fiscal impact.

Main Messages

Social assistance programs in Mexico are unusually well-targeted, though their small size likely contributes to their accuracy. An analysis of household survey data reveals a high redistributive incidence for social protection programs. 77 percent of conditional cash transfer beneficiaries are in the bottom two quintiles of the income distribution, and 63 percent of social assistance expenditures reach households in the bottom two quintiles. These figures indicate relatively high rates of targeting accuracy by international standards.

Mexico's social assistance programs are having a demonstrable impact on poverty and inequality, and their effectiveness is high by Latin American standards. Mexico's social protection programs are estimated to have reduced both the poverty rate and the poverty gap by 3 percentage points over the counterfactual—the former from 23 percent to 20 percent, and the latter from 10 percent to 7 percent. Social protection programs in Mexico are estimated to reduce the poverty gap by 42 cents for each dollar spent on them, making them relatively cost effective compared with similar programs in other Latin American countries. These programs have not only reduced poverty, but have also had a significant impact on inequality; it is estimated that without them the Gini coefficient would be 0.522 rather than 0.505.

Nevertheless, policymakers have a number of opportunities to improve the administrative efficiency of social protection and labor programs. Despite the consolidation of cash transfers, the social protection sector remains populated by numerous small programs with similar or closely complementary objectives. Evaluating these programs, scaling up the most effective and eliminating the least successful could significantly increase the overall efficiency of the social protection system. One relatively large-scale program, the Program for Direct Assistance in Agriculture (*Programa de Apoyos Directos al Campo*, PROCAMPO), does not appear to be having a significant impact on either poverty or inequality, and its effectiveness should be analyzed in greater detail.

A strong program monitoring system and the rigorous evaluation framework developed by CONVEVAL as part of the annual budget process have produced a wealth of information on Mexico's social protection programs, but this information is not always used effectively. Managers sometimes draw on evaluation results to improve program operations, expand coverage or enhance targeting. However, evaluations do not form the basis for strategic policy choices between competing programs despite their integration into the budget process. This is in part a function of overall budgetary inertia, which is discussed in Chapter 2 of the Public Expenditure Review (PER), but it also reflects the role of evaluations in the Mexican policy process, which is discussed Chapter 4.

Federal and state social protection programs often have overlapping beneficiaries. Twenty-three state- and local-level cash transfer programs focus on the elderly alone. Many of these programs overlap with the recently expanded Pension for the Elderly (*Pensión Para Adultos Mayores*), a federal program that represented 0.21 percent of GDP in 2014. A 2013 analysis of social programs in the State of Oaxaca found that the sum of all state and federal cash transfer beneficiaries was greater than the state's total population.

As part of Mexico's system of fiscal federalism the central government transfers resources for social programs to state and local authorities through the Fund for Social Infrastructure Transfers (*Fondo de Aportaciones para Infraestructura Social*, FAIS), which uses a distribution formula based on multidimensional poverty. This formula more accurately reflects equity concerns than other federal transfers, but limited transparency and accountability in the use of transferred resources prevents a thorough analysis of their impact. A set of reforms implemented in 2013 is yielding new information on the effectiveness of these transfers, and future analyses should be able to more accurately assess their impact.

Conclusions and Recommendations

Given the proliferation of small social programs policymakers should carefully review their objectives for the sector, assess which programs are most effectively advancing those objective, and then consolidate, scale up or eliminate programs as necessary. CONEVAL's latest Budget Considerations (*Consideraciones Presupuestales*) report would provide a sound starting point for a comprehensive macro-level review of the social protection sector. This annual report is specifically designed to inform budget decisions, and it encompasses a range of key performance indicators. CONEVAL could also be requested to summarize the findings of multiple reports in order to provide a more longitudinal perspective on the evolution of social programs.

A specific plan should be developed for analyzing the information produced by the reformed FAIS transfer system. In order to compare the effectiveness of intra-governmental fiscal transfers against direct federal spending policymakers will require detailed information on the efficiency, equity and impact of FAIS. Appropriate transparency requirements are now in place, but these will need to be complemented by a corresponding evaluation framework.

Creating a single registry of beneficiaries would increase the efficiency of program administration, identify beneficiary overlaps, help eliminate redundancies, and detect programmatic leakages to higher income groups. The development of this roster corresponds with similar recommendations in the public health and education sectors (see PER Chapters 7 and 8). All of these efforts would be greatly facilitated by the establishment of a national identification system, which would allow for cross-referencing of federal and state records. Mexico's social protection and labor programs have been highly successful to date, and more integrated and comprehensive management of beneficiary information would both further enhance the impact of these programs and enable their continued expansion in a context of mounting fiscal pressures.

INTRODUCTION

1. **This chapter examines social assistance and labor programs, as part of the social protection policies in Mexico.** These programs are designed to alleviate poverty, protect vulnerable groups from economic shocks and build the income-generating capacity of target populations. They include labor programs, entrepreneurship programs and other initiatives that strive to expand income and employment opportunities.

2. **The Mexican government operates a relatively large number of social assistance and labor programs.** A 2013 report by the National Council for the Evaluation of Social Development Policy (*Consejo Nacional de Evaluación de la Política de Desarrollo Social*, CONEVAL) identified 233 social development programs at the federal level alone. The majority of these initiatives are in the health and education sectors and are discussed in detail in Chapters 7 and 8 of the Public Expenditure Review (PER).

3. **This chapter presents information on budgets, expenditures and beneficiaries for a variety of social assistance programs at the federal level, complemented by a brief discussion of federal transfers at the local level.** Mexico's social protection sector encompasses a very large number of programs, many of which have ended, merged or changed names over time, which raises issues in terms of data comparability and analytical consistency. The analysis presented in this chapter attempts to include the largest programs active in each year based on information from the public accounts (*cuenta pública*) and the CONEVAL inventory of social programs.

4. **Data for Mexico feed into a regional database on social protection and labor programs,¹ which allows for comparisons between Mexico and other Latin American countries.** A similar database was developed by the World Bank for countries in Eastern Europe and Central Asia, which allows for additional comparisons with upper-middle income countries. Comparisons with other OECD member states are also included.

5. **The programs and initiatives discussed in this chapter include transfers, subsidies and other interventions that entail direct fiscal expenditures without co-financing from individuals.** Social insurance programs such as contributory pensions are excluded from this report, but are analyzed in depth in a separate report prepared by the World Bank for the *Secretaría de Hacienda* in Mexico.² Given its long-term fiscal implications, it is highly encouraged that the mentioned analysis of the pension system is treated as a complement to this chapter on social assistance and labor programs in order to reach a more complete overview of the social protection landscape in Mexico.

6. **Mexico operates eight types of social assistance program: (i) conditional cash transfers; (ii) housing benefits; (iii) food programs; (iv) social pensions; (v) child benefits; (vi) disability benefits; (viii) emergency benefits; and (viii) other social safety net programs.**

- i. **Conditional cash transfers:** Given their importance in the region the Latin American Social Protection Database has dedicated a specific category to conditional cash transfers. *Prospera* (formerly known as *Oportunidades* and initially launched as *Progresá*) is the principal conditional cash transfer program in Mexico.
- ii. **Housing benefits:** Housing benefits typically entail housing subsidies or the direct provision of subsidized housing for the poor and other targeted populations. Your Home (*Tu Casa*), the Program to Support Regularization for Residents in Informal Settlements Who Lack Title and Live in

¹ See Cerutti et.al, 2014 for more information on this database.

² World Bank, 2015 presents a comprehensive examination of the pension system in Mexico.

- Conditions of Material Poverty (*Programa de Apoyo a los Vecindados en Condiciones de Pobreza Patrimonial para Regularizar Asentamientos Humanos Irregulares*, PASPRAH), Habitat (*Habitát*) and Rural Housing (*Vivienda Rural*) are included in this analysis.
- iii. **Food programs:** These programs involve the direct provision of food. The National Distribution System (*Sistema de Distribuidoras Conasupo, Diconsa*), the Fortified Milk program (*Leche Industrializada Conasupo, Liconsa*) and the Food Support Program (*Programa de Apoyo Alimentario*) are included in the analysis.
 - iv. **Social pensions:** This refers to non-contributory income benefits for the elderly. The Pension for the Elderly (*Pensión para Adultos Mayores PAM*) program and its predecessor, the 70 and Older (*70 y Más*) program, are included in the analysis.
 - v. **Child benefits:** Child benefits involve direct income support or the provision of services for infants and children. The Program for Child Protection and Holistic Development (*Programa para la Protección y el Desarrollo Integral de la Infancia*) is included in the analysis.
 - vi. **Disability benefits.** These are non-contributory income benefits or services for disabled individuals. The analysis includes the Care for People with Disabilities Program (*Programa de Atención a Personas con Discapacidad*).
 - vii. **Emergency benefits:** This category includes income support and services provided in emergencies or for emergency preparedness. The Programs for Families and Vulnerable Populations (*Programas de Atención a Familias y Población Vulnerable*) and the Climate Contingencies Program (*Programa de Atención a Contingencias Climatológicas*), later absorbed into the Program for Prevention and Risk Management (*Programa de Prevención y Manejo de Riesgos*, PPMR), are included in the analysis.
 - viii. **Other social safety nets:** These include interventions at the community or individual level to support or improve quality of life for vulnerable populations. The Program for Direct Assistance in Agriculture (*Programa de Apoyos Directos al Campo*, PROCAMPO) typically represents more than half of expenditures in this category.
7. **Labor market programs fall into three categories: (i) workfare, (ii) training and (iii) other labor market programs.**
- i. **Workfare programs:** This category consists of temporary employment programs in public works or similar projects. It includes the Temporary Employment Program (*Programa de Empleo Temporal*, PET).
 - ii. **Training programs:** These programs provide or subsidize training and technical assistance. The National Fund for Support of Solidarity Enterprises (*Fondo Nacional de Apoyos para Empresas en Solidaridad*, FONAES) and the Rural Capacity Enhancement Program (*Programa de Desarrollo de Capacidades, Innovación Tecnológica y Extensionismo Rural*) are included in the analysis.
 - iii. **Other labor market programs.** These programs support entrepreneurship and income-generating activities and include the Fund to Support Productive Projects (*Fondo para el Apoyo a Proyectos Productivos*) and the Daycare Program for Working Mothers (*Programa Estancias Infantiles para Apoyar a Madres Trabajadoras*).

TRENDS AND INTERNATIONAL COMPARISONS

Trends

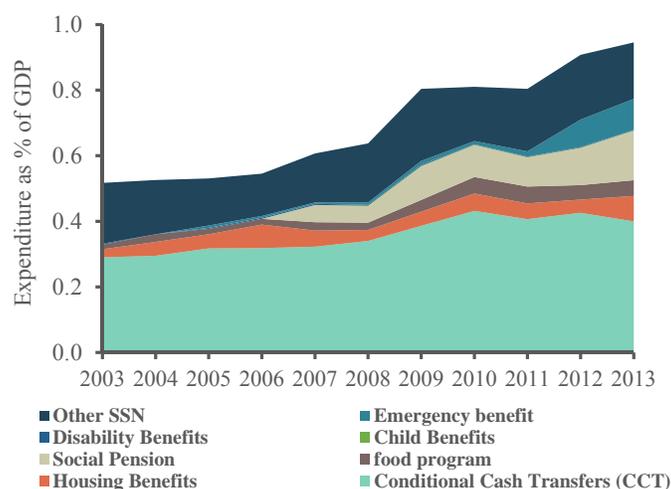
8. **Expenditures on social assistance programs increased from 0.51 percent of GDP in 2003 to 0.95 percent of GDP in 2013.** Expenditures on conditional cash transfers, which traditionally represent the bulk of social assistance spending, increased slightly from around 0.3 percent of GDP in 2003 to around 0.4 percent of GDP in 2013 (Figure 8.1).

9. **The PAM program accounted for most of the increase in social assistance spending.** Introduced in 2006 as a modest benefit for individuals over the age of 70 living in rural communities with less than 30,000 inhabitants, the PAM was gradually expanded to all individuals 65 years or older without income from contributory pensions. Spending on social pensions has increased rapidly, reaching 0.15 percent of GDP in 2013 and 0.21 percent of GDP in 2014.³

10. **Expenditures on emergency benefits have also grown significantly.** The PPMR was established in 2011 to consolidate the functions of existing emergency programs. However, its budget is substantially higher than the total budgets of the programs whose responsibilities it assumed.

11. **While expenditure levels on other social safety net programs have remained relatively constant throughout the last decade, at around 0.18 percent of GDP, the composition of spending has changed.** In 2003 PROCAMPO represented 90 percent of expenditures in this category, while in 2013 it represented roughly 53 percent. PROCAMPO was found to be the least progressive of the programs for which data were available. If social safety net expenditures are being redirected away from PROCAMPO and towards more targeted and progressive programs, this could imply an overall improvement to the redistributive impact of social spending. However, sufficient data are not available to verify this conclusion.

Figure 8.1: Expenditures on Social Assistance Programs as a Percentage of GDP, 2003-2013

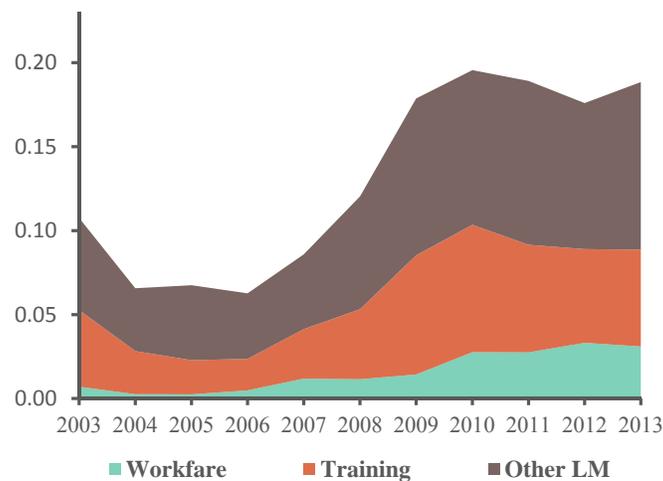


Source: World Bank staff calculations based on data from the Social Protection Database and public accounts

12. **Spending on labor market programs, while considerably lower than social assistance, has also increased over the last decade, particularly during and in the wake of the global financial crisis.** The expansion of the PET workfare program in 2009 boosted its budget considerably, contributing to the overall growth of expenditures on labor market programs, which rose from around 0.1 percent of GDP in 2003 to just under 0.2 percent in 2013 (Figure 8.2).

³ Expenditure figures for 2014 were not available for all programs included in the database. As a result, the analysis uses 2013 data for comparisons and in analyzing overall trends.

Figure 8.2: Expenditures on Labor Market Programs, 2003-2013



Source: World Bank staff calculations based on data from the Social Protection Database and public accounts

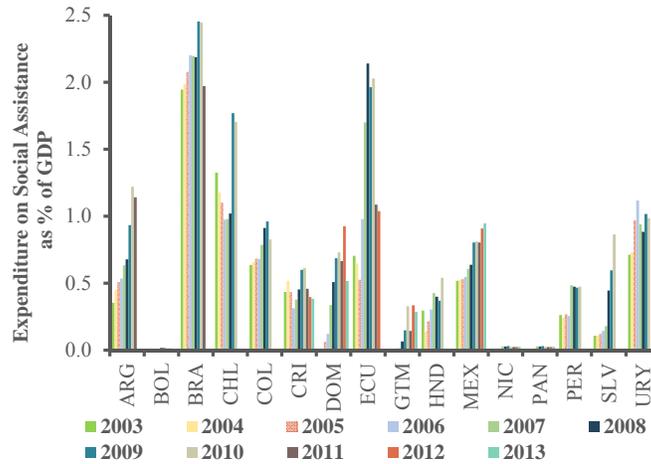
13. **The launch of the Rural Capacity Enhancement Program in 2010 increased total spending on training programs.** This program represented around 0.03 percent of GDP on average between 2010 and 2013. It absorbed the functions of two existing programs: the Agricultural Sector Support Program (*Soporte al Sector Agropecuario*) and the Strengthening Rural Organizations Program (*Fortalecimiento a la Organizacion Rural*).

14. **The category of “other labor market programs” encompasses a wide range of interventions focused on improving productivity, particularly among rural producers; it also appears to exhibit the greatest degree of programmatic fragmentation.** There are multiple programs with highly similar objectives and only slightly different target populations (e.g. rural producers, rural women, rural youth and indigenous women). In addition, a variety of institutions administer these programs, including the Ministry of Agriculture, the National Commission for the Development of Indigenous Peoples, the Ministry of the Economy, and the Ministry of Rural, Urban and Territorial Development. While no single program accounts for the increase in expenditure levels observed since 2008, the dynamics between programs—including budget expansions, program consolidations and the addition of new programs—contributed to an overall increase in expenditures from 0.05 percent of GDP in 2003 to almost 0.1 percent of GDP in 2013.

International Comparisons

15. **Mexico’s expenditures on social assistance programs as a percentage of GDP are close to the average for Latin America.** Mexico spends less than Argentina, Brazil, Chile and Ecuador, and more than the Central American countries. Mexico’s expenditure levels are similar to those of Colombia, the Dominican Republic and Uruguay (Figure 8.3).

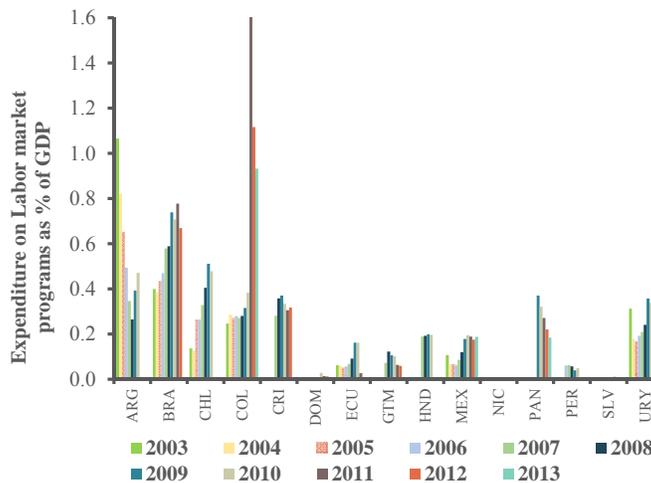
Figure 8.3: Expenditures on Social Assistance as a Percentage of GDP by Country, 2003-2013



Source: World Bank staff calculations based on data from the Social Protection Database

16. **Mexico’s expenditures on labor market programs are relatively low compared with other countries in Latin America.** Mexico spends significantly less on labor market programs than Argentina, Brazil, Chile, Colombia, Costa Rica, Panama and Uruguay (Figure 8.4). With the exception of Costa Rica and Panama, these countries include unemployment insurance under labor market programs. Mexico does not classify unemployment insurance as a labor market program, though Congress is considering the issue. Moreover, other Latin American countries have mature workfare programs and extensive training agendas. Mexico’s spending on labor market programs is more limited, and labor market interventions are diffused across many programs focused on increasing labor productivity and income generation, particularly for rural workers.

Figure 8.4: Expenditures on Labor Market Programs as a Percentage of GDP by Country, 2003-2013

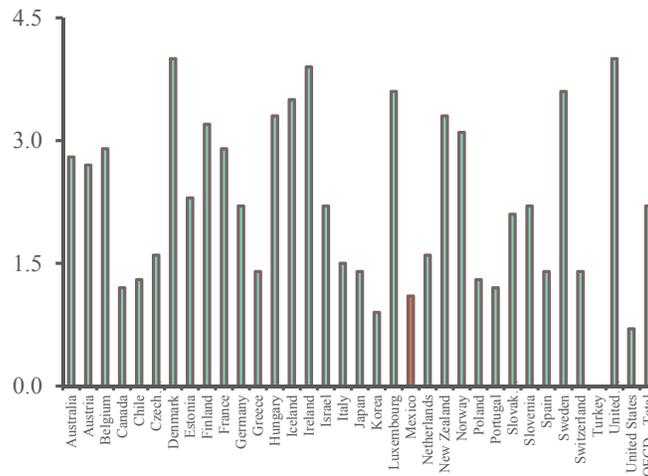


Source: World Bank staff calculations based on data from the Social Protection Database

17. **Spending on both social protection and labor market programs is similarly low when compared to OECD averages.** The relevant category for comparing social assistance expenditures is what the OECD refers to as “family benefits.” This includes conditional cash transfers and other direct household subsidies and allowances. At 1.1 percent of GDP Mexico’s spending on family benefits was just half the

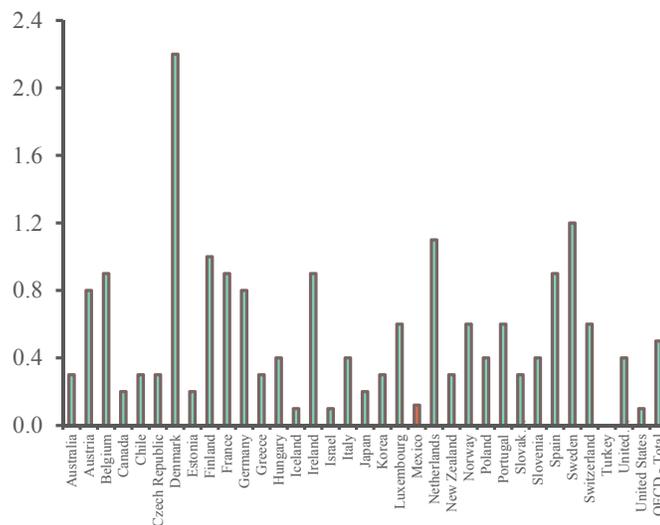
OECD average of 2.2 percent (Figure 8.5). Mexico’s spending on labor market programs as a share of GDP was also substantially below the OECD average of 0.5 percent (Figure 8.6). As in most Latin American countries, most OECD countries include unemployment insurance benefits under labor market expenditures, which is currently not the case in Mexico.

Figure 8.5: Spending on Family Benefits as a Percentage of GDP in OECD Countries



Source: OECD Statistics. Data extracted on 04 May 2015.

Figure 8.6: Spending on Active Labor Market Programs as a Percentage of GDP in OECD Countries



Source: OECD Statistics. Data extracted on 04 May 2015.

18. **Despite increased spending on both social assistance and labor market programs in the last decade Mexico’s expenditures as a share of GDP remain low in comparison with other Latin American countries and particularly low compared to OECD averages.** However, it is important to consider the equity and efficiency of spending on social assistance and labor market programs in addition to overall spending levels.

THE EQUITY OF SOCIAL PROTECTION EXPENDITURES

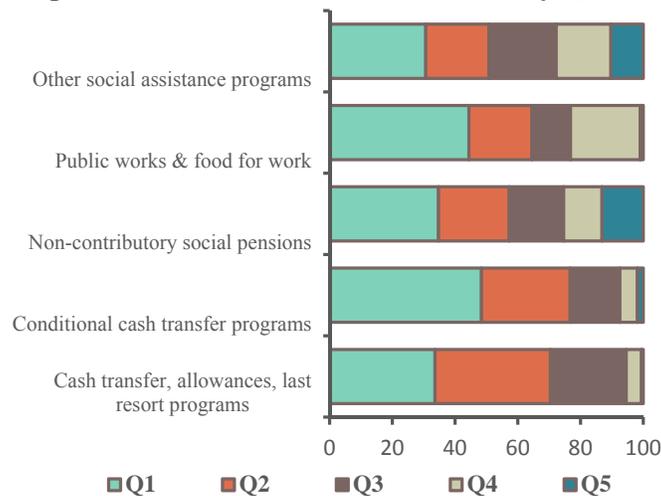
19. **This section analyzes the equity of social expenditures by examining the redistributive impact of spending on social assistance programs.** The analysis relies on information from the 2012 National Household Income and Expenditure Survey (*Encuesta Nacional de Ingresos y Gastos de los Hogares*, ENIGH) implemented by the National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*, INEGI), and is therefore limited to the programs included in the survey as income sources from transfers.

20. **Programs are classified according to the 8 categories of social assistance programs and 3 categories of labor market programs outlined in the chapter’s introduction.** The Food Support Program (*Programa Alimentario*) is categorized as an unconditional cash transfer, *Prospera* is a conditional cash transfer, *70 y Más* and *Pensión para Adultos Mayores* are social pension programs, and PET is a public works project. PROCAMPO and scholarship programs are classified as other social assistance programs.

21. **An incidence analysis of these programs was carried out using ADePT, a software platform developed by the World Bank to systematically analyze information from household surveys.** The incidence analysis was conducted using the household per capita expenditure measure. ADePT was used in conjunction with the World Bank Atlas of Social Protection Indicators of Resilience and Equity (ASPIRE) database for international comparisons of household-level data.

22. **Social protection programs in Mexico are generally well targeted.** Seventy-seven percent of beneficiaries of the conditional cash transfer program are in the bottom two quintiles of per capita consumption. Programs classified as other social assistance programs, which include PROCAMPO, are the least well targeted, with 51 percent of beneficiaries belonging to the 40 percent of households with the lowest per capita expenditure (Figure 8.7).

Figure 8.7: Distribution of Beneficiaries by Quintile

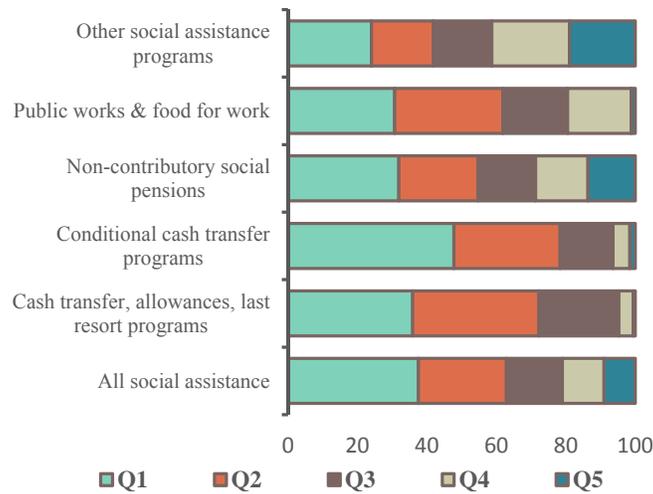


Source: World Bank staff calculations using ADePT

23. **Analyzing expenditures that reach each household in the form of transfers reveals a similar picture.** Sixty-three percent of the expenditures on social assistance programs included in this analysis reach households in the bottom 40 percent of the distribution of per capita income. Seventy-eight percent of expenditures on the conditional cash transfer program (*Prospera*) reach the lowest 40 percent of the per

capita income distribution, while just 41 percent of other social assistance programs reach households in the first two quintiles of per capita consumption (Figure 8.8).

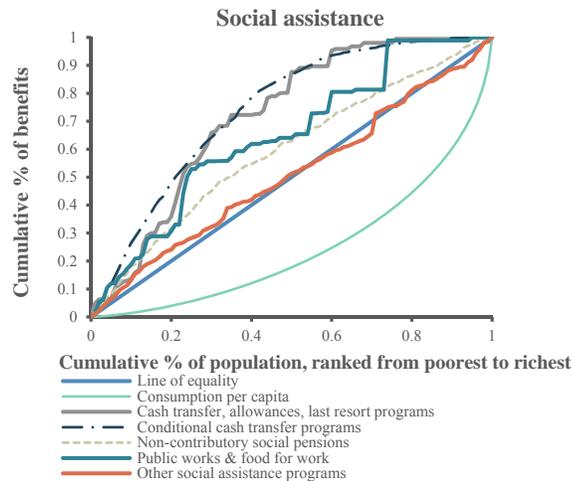
Figure 8.8: Distribution of Benefits by Quintile



Source: World Bank staff calculations using ADePT

24. **The percentage of benefits reaching each portion of the population is analyzed in greater detail using concentration curves.** Conditional cash transfers and other types of cash transfers are the most progressively distributed social assistance benefits, while other social assistance programs, which include PROCAMPO, show an almost neutral distribution of resources (Figure 8.9).

Figure 8.9: Concentration Curve for Social Assistance Benefits

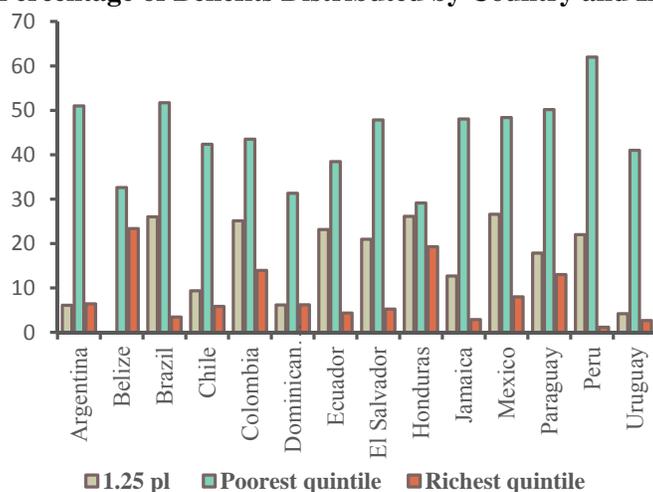


Source: World Bank staff calculations using ADePT

25. **Mexico compares favorably to other Latin American countries with respect to the redistributive impact of social assistance expenditures.** An analysis of household survey data using information from ASPIRE reveals that the proportion of benefits allocated to households that are below the international poverty line of \$1.25 a day in PPP terms is highest in Mexico, reaching 27 percent of spending (Figure 8.10). The proportion of spending targeted in the lowest quintile is also one of the highest in the region at 48 percent. This is similar to levels in Argentina, Brazil, El Salvador, Jamaica and Paraguay, and only surpassed by Peru.

26. **Leakage rates in Mexico are low, albeit higher than in other well-performing countries.** In this context leakage refers to the diversion of benefits to the richest quintile of the population. While Mexico's leakage rate is only 8 percent, countries such as Brazil, Ecuador, Jamaica, Peru and Uruguay have levels of 5 percent or lower (Figure 8.10).

Figure 8.10: Percentage of Benefits Distributed by Country and Income Group

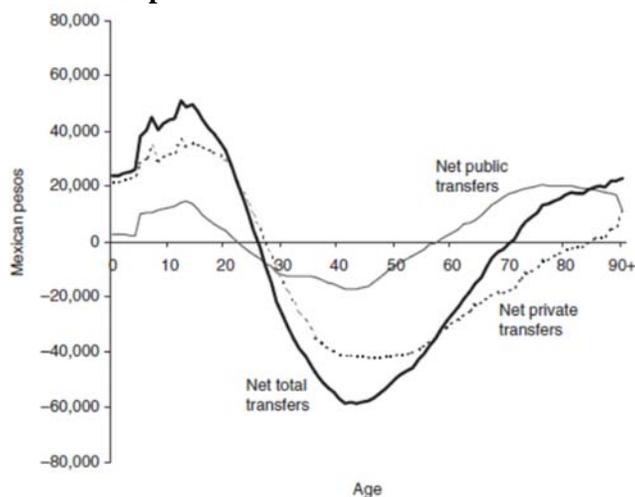


Source: ASPIRE <http://datatopics.worldbank.org/aspire/>

27. **The preceding analysis reaches similar conclusions to other studies analyzing the redistributive incidence of social assistance programs in Mexico.** Scott (2014) finds that social assistance programs are the most progressive of social transfers in Mexico using data from the 2008 and 2010 ENIGH, and that contributory pension subsidies and scholarships for private school tuition are the most regressive. The focus on social assistance influences the findings in this analysis, since these are well-targeted programs in Mexico and have been effective in reaching the poor. In other words, this chapter is skewed towards some of the most well-targeted elements of public spending in Mexico, which explains in part the positive results in terms of the equity of social assistance programs.

28. **Aging is a relevant trend that policymakers will need to address in order to monitor the redistributive impact of social expenditure.** Mejia-Guevara (2012) analyzes the distribution of net transfers by age group using data from the 2004 ENIGH and finds that public transfers are concentrated among the youngest and the oldest population (Figure 8.12). This distribution has probably accentuated in recent years with the expansion of the CCT and Social pension programs. As the population ages, the redistributive impact of these transfers will also evolve, requiring a closer look into which policies remain relevant for the needs of the population.

Figure 8.11: Per Capita Public and Private Transfers. Mexico 2004.



Source: Mejia-Guevara, 2012

THE EFFICIENCY OF SOCIAL EXPENDITURES

29. **The efficiency of social expenditure can be generally understood as the extent to which financed programs reach their objectives at the lowest possible cost.** This notion of efficiency can be analyzed from at least three angles: on the basis of the overall objective of reducing poverty and inequality; program specific objectives beyond poverty impacts; and administrative efficiency.

Effects on Poverty and Inequality

30. **This section first examines the overall effect of existing social programs on poverty and inequality.** Data are obtained from the 2012 ENIGH and ADePT software. The methodology consists of simulating the impact of social programs on poverty and inequality measures. This is done by comparing poverty and inequality measures obtained in the survey with what would have been obtained in absence of the programs.

31. **The analysis finds that in the absence of social assistance programs the poverty rate would be 23 percent rather than 20 percent, and the poverty gap would be 9.9 percent rather than 7 percent (Table 8.1).** The conditional cash transfer program would have the greatest impact; in its absence the poverty rate would be 21.8 percent and the poverty gap would be 8.8 percent. These results are a function of the program's targeting, scope and coverage. Public works and other cash transfers were not found to have a significant impact on poverty indicators.

Table 8.1: Impact of Programs on Poverty Indicators (Comparison with Simulated Counterfactuals)

	FGT0	FGT1	FGT2
Indicator	0.200	0.070	0.036
Indicator without listed transfer			
All social assistance	0.230	0.099	0.061
Cash transfer, allowances, last resort programs	0.201	0.070	0.036
Conditional cash transfer programs	0.218	0.088	0.051
Non-contributory social pensions	0.205	0.074	0.039
Public works & food for work	0.200	0.070	0.036
Other social assistance programs	0.206	0.076	0.040

Source: World Bank staff calculations using ADePT

32. **The effect of social assistance programs on inequality measures is similarly significant.** The Gini coefficient would increase from 0.505 to 0.522 in the absence of social assistance programs (Table 8.2). The conditional cash transfer program again shows the greatest impact on inequality, with the Gini coefficient increasing to 0.518 in its absence.

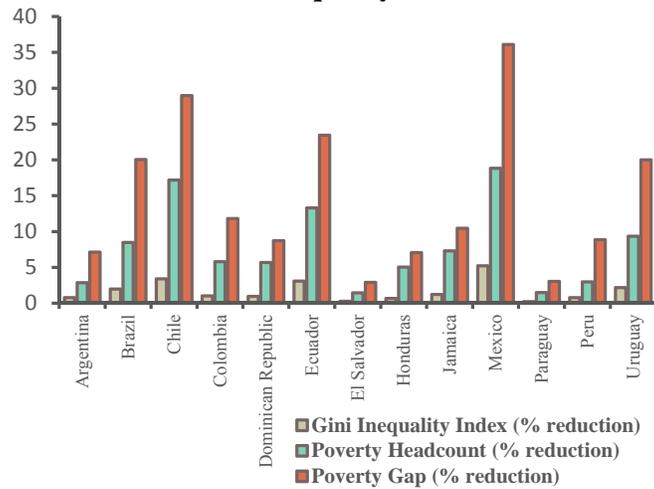
Table 8.2: Impact of Programs on Inequality Indicators (Comparison with Simulated Counterfactuals)

	Gini	GE(0)	GE(1)	GE(2)
Indicator	0.505	0.455	0.509	1.201
Indicator without listed transfer				
All social assistance	0.522	0.620	0.542	1.260
Cash transfer, allowances, last resort programs	0.505	0.459	0.509	1.201
Conditional cash transfer programs	0.516	0.514	0.528	1.233
Non-contributory social pensions	0.508	0.490	0.514	1.211
Other social assistance programs	0.508	0.502	0.516	1.215

Source: World Bank staff calculations using ADePT

33. **Mexico's performance compares favorably with other countries in Latin America and the Caribbean.** Social assistance programs in Mexico have the largest impact on poverty and inequality measures in the region. According to data collected in ASPIRE, social assistance programs in Mexico reduce the Gini coefficient by 5 percent, the poverty headcount by close to 20 percent and the poverty gap by more than 35 percent (Figure 8.12). These are the largest estimated impacts for these types of programs among countries in the region for which data are available.

Figure 8.12: International Comparison of the Effects of Social Assistance Programs on Poverty and Inequality

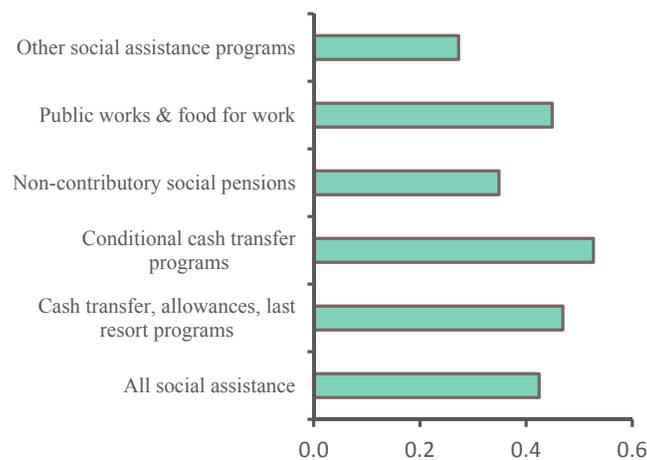


Source: ASPIRE, <http://datatopics.worldbank.org/aspire/>

34. **One measure of efficiency that is particularly relevant for social policy is the degree to which a program reduces poverty levels per unit of resources spent.** This can be measured by comparing the total reduction in the poverty gap to total expenditures on programmatic transfers. Data from ENIGH, administrative information for programs included in the chapter, and the ADePT software were used to conduct this analysis.

35. **Each dollar spent on the social assistance programs included in the analysis reduces the poverty gap by 42 cents (Figure 8.13).** The conditional cash transfer program exhibits the highest level of efficiency, reducing the poverty gap by 53 cents per dollar. Public works and other cash transfer programs show modestly lower levels of efficiency, reducing the poverty gap by around 45 cents per dollar. The least efficient programs were non-contributory social pensions and other social assistance programs, which include PROCAMPO.

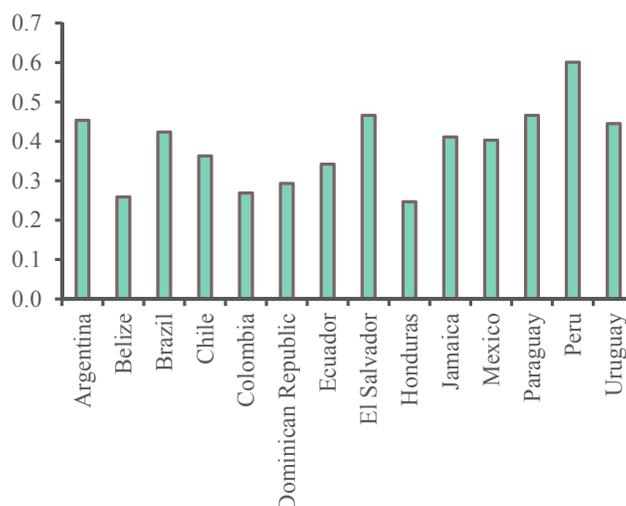
Figure 8.13: Cost Benefit Analysis: Reduction in Poverty Gap per Dollar Spent on Program



Source: World Bank staff calculations using ADePT

36. **The efficiency of Mexico’s social assistance programs compares favorably with that of other countries in Latin America.** Mexico is among the group of countries that are able to reduce the poverty gap by between 40 and 50 cents per dollar spent on social assistance programs (Figure 8.14). Other countries include Argentina, Brazil, El Salvador, Paraguay and Uruguay. Only Peru shows a higher degree of efficiency, with poverty gap reductions of more than 60 cents per dollar.

Figure 8.14: Cost Benefit Ratio among Latin American Countries (Percentage Reduction)



Source: ASPIRE, <http://datatopics.worldbank.org/aspire/>

37. **Social assistance programs in Mexico perform well in terms of their impact on poverty and inequality, with comparatively high effects per dollar spent.** Conditional cash transfers perform particularly well, while other social assistance programs do relatively poorly. It is worth recalling here the expansionary trend that the noncontributory pension program has experienced in recent years, as it is expected that as the program expands, its efficiency in terms of poverty impact per peso spent will decrease, since the portions of the population most in need would have been targeted at the beginning of the program.

Program Objectives and Evaluation Framework

38. **Mexico has developed a strong monitoring system and rigorous evaluation framework for social assistance programs under the technical leadership of CONEVAL.** This framework has been developed in conjunction with the annual budget process. In line with the principles of results-based budgeting it includes program indicators, which are managed through certain rules of operation and assigned a budget code in the form of a monitoring and evaluation scorecard. Follow up on these scorecards over time provides relevant information on program performance against which expenditures can be assessed.

39. **Each year CONEVAL issues a report at the beginning of the budget cycle to inform resource allocation decisions for social programs.** The report prioritizes programs in terms of their efficacy in achieving stated goals. The 2014 report condensed findings from the 2012-2013 monitoring and evaluation scorecards of 258 programs and actions at the federal level. Programs such as *Oportunidades*, *Liconsa*, *70 y Mas* and PET received a high priority classification for poverty alleviation, while microfinance programs managed by the Ministry of Economy, the Fund for Rural Women and the National Program for the Financing of Microenterprises were classified as low priority.

Administrative Efficiency

40. **Although social expenditures in Mexico are generally efficient and well targeted, the prevalence of numerous small programs managed by different authorities has led to programmatic fragmentation.** Many programs have overlapping objectives and target populations. This can reduce administrative efficiency and increase operational costs without improving overall results.

41. **In its 2014 National Evaluation of Social Policy CONEVAL indicated that resources are highly dispersed among many social development programs.** This implies fragmented spending, which can translate into less effective and efficient programs. Potential efficiency issues include the proliferation of many small-scale programs incurring high fixed costs, the creation of additional bureaucracy to support new programs, reduced inter- and intra-institutional coordination, difficulties in social policy planning, potential program duplication, and inefficient coordination between states and municipalities. All of these issues deserve further attention if increased efficiency in social expenditure is established as a public policy priority.

42. **Household surveys can provide insights into the degree of duplication among social programs in Mexico.** However, this information can be misleading given that some social programs are not represented in household surveys. Moreover, a household receiving assistance from more than one program may signal a highly effective social protection system, supporting poor and vulnerable households through a complete package of public programs, rather than duplication. The analysis should instead focus on whether these programs address similar needs or objectives. However, this is not possible based exclusively on survey data. Further research on the inefficiencies generated by overlapping programs, as well as the potential cost savings of consolidation would be useful in this regard.

43. **The 2012 ENIGH reveals that most households receiving assistance through a social assistance program are beneficiaries of at least one additional program.** At least 35 percent of households that receive assistance from a social assistance program are also recipients of conditional cash transfers (Table 8.3 **Error! Reference source not found.**). This may reflect the precise targeting and high coverage rates of the conditional cash transfer program.

Table 8.3: Program Beneficiaries (row) Receiving Program Assistance (column)

	All Social Assistance Programs	Cash Transfers, Allowances, Last Resort Programs	Conditional Cash Transfer Programs	Non-Contributory Social Pensions	Public Works and Food for Work	Other Social Assistance Programs
All Social Assistance Programs	100.0	1.8	41.1	13.8	0.7	21.7
Cash Transfers, Allowances, Last Resort Programs	100.0	100.0	35.1	6.3	3.7	32.2
Conditional Cash Transfer Programs	100.0	1.6	100.0	12.0	0.7	19.5
Non-Contributory Social Pensions	100.0	0.8	35.6	100.0	0.6	23.9
Public Works & Food for Work	100.0	10.0	43.5	12.4	100.0	25.9
Other Social Assistance Programs	100.0	2.7	36.9	15.2	0.8	100.0

Source: World Bank staff calculations using ADePT

44. **Duplication is more likely among programs aimed at improving the productivity of independent workers, the self-employed or small entrepreneurs.** A number of programs classified as other labor market programs have similar objectives but are managed by different institutions. The 2013 CONEVAL inventory identified nine social programs with the objective of “promoting the generation of

decent employment and income,” which were managed by five different institutions. Moreover, 29 programs with the objective of “promoting competitiveness and strengthening local markets” were managed by five institutions. Total expenditures on these programs were MXN 82.15 billion, or 0.05 percent of GDP, with an average annual expenditure per program of MXN 2.16 billion. The program with the lowest expenditures was MXN 2.4 million, while the program with highest was MXN 15,800 million. Sixteen of these programs operate in rural areas, while 21 operate in both rural and urban areas.

45. **CONEVAL assessments in 2014 and 2015 found that 107 out of 233 programs were fully similar to one or more programs based on the variables included in the analysis.**⁴ CONEVAL employed a latent class analysis using 37 variables, which characterized each program according to four aspects: basic right targeted, life stage of beneficiaries, target beneficiary group and type of support. The analysis divided the programs into five groups. 107 programs had the same values for all 37 variables, including 11 economic development programs.⁵ CONEVAL has recommended a more thorough evaluation of the results in each group to determine whether these similarities represent complementary or redundant approaches to achieving their objectives.

46. **Creating a single registry of beneficiaries would help identify beneficiary duplication, eliminate redundancies and increase the efficiency of social programs.** Managers and policymakers could use the single registry to determine which beneficiaries were receiving assistance from multiple programs, and this information could be used to identify redundant programs with similar objectives or target groups. The Ministry of Social Development (*Secretaría de Desarrollo Social*, SEDESOL) is currently developing an integrated social information system, including a single registry of beneficiaries, with support from the World Bank and other international organizations (Box 8.1).

Box 8.1: Developing and Integrated Social Information System in Mexico

The World Bank is supporting the government of Mexico under a social protection loan to develop an Integrated Social Information System (*Sistema de Información Social Integral, SISI*). The project will support the following initiatives: (i) assessing the ICT infrastructure requirements for the development of the SISI; (ii) developing the SISI; (iii) supporting implementation of the SISI through, inter alia, the acquisition of software and provision of ICT services; (iv) developing an operational manual documenting the processes involved in operating the SISI; (v) developing capacity building mechanisms for using the SISI; and (vi) reviewing the existing legal framework and developing protocols for the exchange of information between ministries and agencies responsible for implementing social programs.

The SISI is a technological platform that will integrate, manage and leverage socioeconomic data on both the demand and supply of social programs to allow for better planning, coordination and targeting of social policy. It aims to resolve issues caused by multiple overlapping systems and information sources, as well as diverse poverty estimation methods, a lack of unique personal identifiers, service duplications, deficiencies in monitoring coverage, the misalignment of programs and policies with government strategies, and insufficient coordination between institutions.

The SISI is expected to help standardize data collection methodologies and processes, provide a unique classification system for households, integrate information into one unique source, improve the interoperability of existing systems, and promote data leveraging.

⁴ These results are taken from CONEVAL, 2015 available at http://www.coneval.gob.mx/Evaluacion/IEPSM/Documents/Consideraciones_presupuestales_2016.pdf

⁵ Some relevant examples among the programs covered in this report include: Programa de Opciones Productivas and Programas del Fondo Nacional de Fomento a las Artesanías (FONART), implemented by SEDESOL; Programa de Apoyo para la Productividad de la Mujer Emprendedora and Programa para el Apoyo a Proyectos Productivos en Núcleos Agrarios (FAPPA), implemented by SAGARPA; Fondo de Microfinanciamiento a Mujeres Rurales and Programa Nacional de Financiamiento al Microempresario, implemented by the Ministry of the Economy; and Programa de Apoyo al Empleo and Programa de Atención a Situaciones de Contingencia Laboral implemented by the Ministry of Labor.

The SISI is composed of several modules, three of which are particularly important: the Targeting System for Development (*Sistema de Focalización para el Desarrollo*, SIFODE), the proposed national mechanism for targeting potential beneficiaries of social programs; PUB, the proposed single registry of beneficiaries; and the Geographic Information System (*Sistema de Información Geográfica*, SIGE), the proposed platform that will be integrated with the SISI and contain georeferenced information.

Source: Mexico - Social Protection System Project, Project Appraisal Document, PAD933, The World Bank

47. **SEDESOL has developed a single registry, the Unique Register of Beneficiaries (*Padrón Único de Beneficiarios*, PUB); however, in its current form the registry does not serve as an effective tool for identifying duplication between social programs.** PUB has not yet been developed into an integrated registry system and in its current form it merely consolidates existing beneficiary registries. As the system is still manual, SEDESOL staff spend a significant amount of time responding to information requests. When fully developed PUB will integrate the beneficiary registries of all programs in the federal public administration, beginning with SEDESOL and the National Crusade against Hunger (*Cruzada Nacional Contra el Hambre*, CNCH). One challenge in developing an effective single registry is that it requires a comprehensive and unique identification system, the prospect of which is still under discussion in Mexico.

48. **The development of a single registry of beneficiaries as part of a broader social information system would allow the government to more effectively align the needs of target populations with the supply of public sector services.** The comprehensive use of a single registry, coupled with improved administrative information at the program level, could facilitate policies that seek to reduce poverty and inequality by expanding economic opportunities and promoting citizen's participation at the local level. Development of a comprehensive social information system would have important implications beyond the cost savings generated by detecting duplicative programs by improving the effectiveness of social policies. Brazil's successful implementation of the Single Registry (*Cadastro Unico*) can serve as an example for Mexico and other countries developing a single registry (Box 8.2).

Box 8.2: The Experience of Brazil's Single Registry

In Brazil the Single Registry (*Cadastro Único*) is the foundation for social programs such as the Conditional Cash Transfer (*Bolsa Familia*) program. It was introduced in the early 2000s and now serves as the country's largest and most comprehensive database of low-income individuals and households. Brazil's single registry can serve as an example for countries interested in using management information systems to determine the socioeconomic profile of low-income households.

The Single Registry identifies and characterizes low-income households, defined as those who have a monthly income of up to half the minimum wage or a total household monthly income of up to three times the minimum wage. It provides a range of information on household characteristics, including data on individual family members and their access to essential public services. The federal government consolidates data at the local level in the Single Registry through a computerized system. The government then uses this data to formulate and implement specific policies that contribute to reducing the social vulnerability of families. The Ministry of Social Development and Hunger Alleviation manages the Single Registry, which is widely used to determine the beneficiaries of federal social programs. States and municipalities also use the Single Registry to develop local social development policies.

Brazil's Single Registry was developed gradually. Although formally introduced in 2001 the Single Registry only began to expand after implementation of the Bolsa Familia program, which consolidated four similar social assistance programs. During that time 5.5 million families were added to the registry. Data quality has been an issue throughout the registry's development, and regular data cross checks with

other government sources have been implemented over time. When the Brazil without Extreme Poverty (*Brasil Sem Miséria*) program was launched in 2011 the registry was used to consolidate a number of programs targeting extreme poverty. As of 2015 the registry includes 26.6 million families and 80 million individuals, or 80% of Brazil's population.

Brazil's experience with the Single Registry has provided a number of useful lessons for other countries. This includes the importance of clearly establishing all elements of the registry process, including data uploading, data exclusions, and mechanisms for protecting personal information, as well as developing feedback mechanisms to collect and consolidate information from different programs. Moreover, in Brazil the decision to use the Single Registry as a tool to consolidate programs had wide political support and a strong legal foundation. Brazil does not use a unique identifier; however, the Cadastro National Identification System (NIS) attributes a single NIS to each individual. Finally, the Brazilian government has established a dedicated unit at the national level to administer the Single Registry, in addition to a manager in each municipality. The Federal Savings Bank (*Caixa Econômica Federal*) oversees the system's IT functions.

Source: Ministry of Social Development, Brazil.

FEDERAL, STATE AND LOCAL EXPENDITURES ON SOCIAL PROTECTION AND LABOR

Overlap Between Federal and State Programs

49. **States and municipalities offer a wide array of programs focused on poverty alleviation and improving income generation opportunities.** CONEVAL identified 3,788 programs and actions in its state-level inventory of social development programs in Mexico. 1,083 of these programs are in the area of economic welfare and labor. This includes 446 programs not covered in CONEVAL's federal inventory.

50. **State and federal social protection programs often have overlapping functions and beneficiaries.** There are 23 state level cash transfer programs that focus on the elderly alone. The states of Jalisco, Oaxaca, Nuevo Leon, Quintana Roo, Guerrero and Distrito Federal have implemented a non-contributory pension program for the elderly. Many of these program are essentially identical to the *Pensión para Adultos Mayores*, which represented 0.21 percent of GDP in 2014. A thorough examination of these programs is needed to determine whether the federal program should be redesigned to absorb existing state-level programs.

51. **A 2013 analysis of social programs in the State of Oaxaca found that the sum of all state and federal cash transfer beneficiaries was greater than the state's total population.** The analysis found that there were 3,821,815 beneficiaries of state and federal cash transfer programs in Oaxaca, while the state's population was estimated at 3,801,962. This implies some degree of beneficiary overlap. Moreover, when Oaxaca implemented a single beneficiary registry for its state-level social programs it found only 999,435 unique beneficiaries. Comparing the state's unique beneficiary registry with the single beneficiary registry being developed at the federal level for recipients registered in Oaxaca would help determine the degree of redundancy between programs with similar characteristics. This would provide a more solid basis for informed policy decisions regarding the size, coverage and target populations of these programs at both the state and federal level.

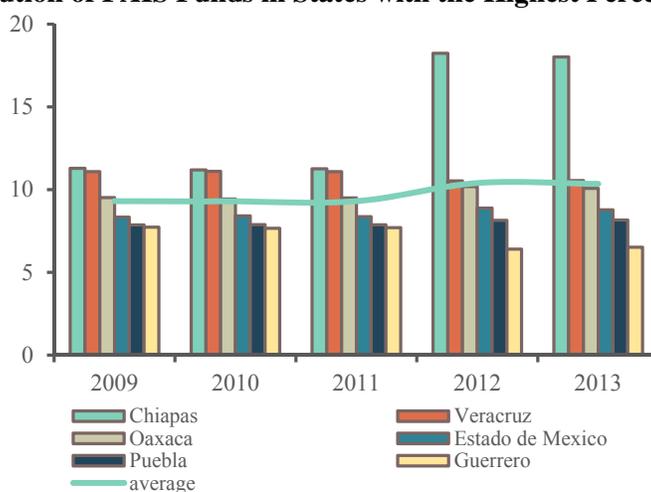
Federal Transfers to the Local Level

52. **The Fund for Social Infrastructure Transfers (*Fondo de Aportaciones a la Infraestructura Social Municipal*, FAIS) is one of eight funds that comprise *Ramo 33*, the federal budget category for transfers to states and municipalities.** *Ramo 33* was established in 1997 through the addition of Chapter

V to the Fiscal Coordination Law⁶ with the aim of financing public services in areas such as primary health and education, which had been increasingly relegated to the states and municipalities, as well as to fund concurrent expenses on poverty alleviation and public safety. According to Article 33 of the law, federal transfers should be exclusively used for “the financing of works, social actions and investments that directly benefit populations living in social backwardness (*rezago*) and extreme poverty in the following categories: clean water; sewage and latrines; municipal urbanization; rural and poor neighborhood electrification; basic health infrastructure; basic education infrastructure; housing conditions improvement; rural roads; and rural production infrastructure.”

53. **FAIS funds are allocated using a distributional formula based on multidimensional poverty.** FAIS is allocated 2.5 percent of the eligible federal revenue as established in the Federal Income Law for each fiscal exercise. FAIS consists of two principle funds: (i) the Fund for State Infrastructure Transfers (*Fondo de Aportaciones para la Infraestructura Estatal*, FISE), and (ii) the Fund for Municipal Social Infrastructure Transfers (*Fondo de Aportaciones para la Infraestructura Social Municipal*, FISM). FISE represents 0.303 percent of federal revenue and is allocated through a formula calculating the proportion of the national extreme poverty rate for each state. FISM distributes 2.197 percent of the eligible federal revenue to the municipalities. States allocate funds to municipalities according to the same function and on the basis of INEGI data on poverty levels. FISM funds account for up to 14.4 percent of municipalities’ income.⁷ Figure 8.15 shows the distribution of FAIS resources according to the formulas established in 1997.

Figure 8.15: Distribution of FAIS Funds in States with the Highest Percentages of Resources



Source: Ministry of Social Development, using INEGI data

54. **While FAIS funds represent a substantial source of income for states and municipalities, limited transparency and accountability in the use of transferred resources has prevented a thorough analysis of their impact in target populations.** A Superior Audit Office (*Auditoría Superior de la Federación*, ASF) report found that SEDESOL did not provide sufficient training or support to states and municipalities on how to appropriately use FAIS funds. Moreover, it found that many states and municipalities did not report back to the federal government on their use of FAIS funds. In 2011, 72 percent of municipalities audited by the ASF did not indicate how they had used FAIS transfers. According to the

⁶ Please refer to the Fiscal Coordination Law reforms of the 29th of December, 1997, available in: http://www.diputados.gob.mx/LeyesBiblio/ref/lcf/LCF_ref17_29dic97.pdf

⁷ Reported by the Ministry of Social Development using INEGI data.

ASF most of the initiatives undertaken with FAIS funds were basic infrastructure projects that did not benefit the target population.

55. **A set of reforms implemented in 2013 aim to improve the transparency, efficiency and impact of FAIS funds.** Changes in the December 2013 Fiscal Coordination Law stipulated that (i) FAIS resources should be oriented exclusively to populations in extreme poverty, or living in priority attention zones or in areas with social hardship; (ii) the percentage of the population living in extreme poverty would remain the primary determinant of funding, but each state and municipality would be guaranteed at least the same level of funding as in the previous fiscal exercise (at least in 2014) and good performance would be rewarded with additional funding; and (iii) SEDESOL would develop a training and support scheme on the use of FAIS resources for states and municipalities. In addition, local authorities were required to present development plans and to report on their activities in an annual Matrix for Social Development Investment (*Matriz de Inversión para el Desarrollo Social*, MIDS).

56. **While the impact of FAIS transfers has improved, challenges remain in the administration of FAIS funds.** Eighty-eight percent of allocated federal resources in the 2014 fiscal year were accounted for through MIDS by the beginning of 2015. The 2015 catalogue of actions is now being modified to include additional programs according to needs identified in 2014. A key challenge will be to ensure the equity of resource distribution, and to avoid gaps in funding between municipalities and states on the basis of their capacity to manage and report on FAIS funds.

RECENT INSTITUTIONAL DEVELOPMENTS IN SOCIAL PROTECTION EXPENDITURES

National Crusade Against Hunger

57. **In 2003 Mexico launched the National Crusade against Hunger (*Cruzada Nacional Contra el Hambre*, CNCH), an ambitious initiative aimed at eliminating extreme poverty and hunger.** The CNCH uses multidimensional poverty measures as the foundation for social policies, and has served as a catalyst for improved coordination between different entities at the federal and local levels.

58. **The CNCH identified 400 municipalities (this was expanded to 612 in 2014) with the highest levels of extreme poverty to serve as priority areas for a series of social programs managed at the federal and state levels.** The CNCH is a model for the positive effects of coordination in improving the efficiency of social spending, and the adoption of the CNCH partially addresses the concerns raised in this chapter regarding the proliferation of programs with overlapping objectives. However, lack of coordination remains an issue in programs that serve populations not covered by the CNCH, and even within the CNCH the degree of coordination has varied by program and region.

59. **The CNCH is subject to rigorous evaluation by CONEVAL, and a 2014 panel survey found significant improvements in key indices among participating municipalities, particularly those related to hunger.**⁸ These intermediate results are encouraging and the recommendations provided here are meant to complement the findings of the evaluation. The development of a functional single registry of beneficiaries for social programs could serve as an important tool for further analysis of CNCH performance. Moreover, the results of the interim evaluations should be used to prioritize different CNCH programs. Programs focused on urban areas, including some managed by the Ministry of Labor, have expressed concerns about being required to participate in the CNCH and redirect their efforts toward

⁸ CONEVAL, 2015b.

municipalities where their impact could be less effective. These concerns can now be tested against the data generated by CNCH evaluations.

Changes in the Budget Structure in Fiscal Year 2016

60. **In June 2015 the Ministry of Finance and Public Credit announced changes to the structure of the 2016 budget, which included consolidation and restructuring of several programs, with the aim of reducing the budget by 4.3% in real terms from 2015 levels.** Under the 2016 budget 261 budget programs will be merged into 99, seven budget programs will be re-classified, 56 budget programs will be eliminated and four will be created⁹.

61. **Under the 2016 budget there will be several important changes in the area of social protection and labor market programs.** Nine labor market and social security programs will be consolidated into three. In the area of social development one program will be eliminated, nine programs will be consolidated into four, and the Program for Promotion of the Social Economy will be transferred from the Ministry of Economy to the Ministry of Social Development. While these changes are a positive step toward rationalizing social programs and enhancing their administrative and budgetary management, further consolidation efforts should be grounded in a formal national policy. This is especially important for programs aimed at increasing the productivity of small businesses and entrepreneurs.

CONCLUSIONS AND RECOMMENDATIONS

62. **Mexico's social protection programs are generally well-targeted, with a demonstrable impact on poverty and inequality.** Expenditures on both social protection and labor market programs remain low as a share of GDP compared with Latin American and OECD averages. Although information on the overall performance of labor market programs is limited, workfare programs seem to achieve positive results with relatively limited resources.

63. **Given the proliferation of small social programs with overlapping objectives and beneficiaries policymakers could increase efficiency by identifying areas with a high degree of programmatic fragmentation and consolidating or eliminating redundant programs as necessary.** Programs that support income generation among small producers and self-employed workers show high levels of programmatic duplication, and a deeper analysis could lead to the consolidation of programs in this area. Moreover, CONEVAL assessments in 2014 and 2015 generated a list of programs with a high level of redundancy, which would provide a sound starting point for examining programmatic fragmentation in the social protection sector.

64. **The redesign of the *Oportunidades* program into *Prospera*, as well as the launch of the CNCH, have promoted a broader sectoral approach based on program coordination and improved targeting.** *Prospera* is now more than a conditional cash transfer program, as it provides services to the poor and vulnerable that foster their social and productive inclusion. In addition, the CNCH coordinates multiple smaller programs in municipalities with the highest levels of extreme poverty. Although each program under the CNCH continues to operate independently, the CHCH's focus on specific geographical areas facilitates coordination to achieve joint objectives. These initiatives provide two alternative models—consolidation and coordination—for maximizing the impact of social assistance programs.

65. **Creating a single registry of beneficiaries would help identify beneficiary duplication, eliminate redundancies and increase the efficiency of program administration.** With a single registry of beneficiaries, program managers and policymakers would know with certainty which beneficiaries were

⁹ CIEP, 2015.

receiving assistance from multiple programs. Moreover, cross-checking the unique beneficiary registries in each state with the single beneficiary registry being developed at the federal level could further underscore programs with a high degree of redundancy and provide a basis for informed policy decisions regarding the size, coverage and target populations of social programs at both the federal and state levels.

66. **Integrating the single registry of beneficiary into a broader social information system would improve the efficiency of social expenditures by more accurately aligning programs and initiatives with the identified needs of target populations.** The Mexican government is already developing a comprehensive social information system with support from the World Bank. Creating and integrating a single registry of beneficiaries will be a complex process, and policymakers should draw on lessons learned from the international experience

67. **Building on recent reforms designed to improve accountability in the use of federal transfers through FAIS, the government could invest in further studies analyzing the information produced by the reformed FAIS transfer system.** In order to assess the effectiveness of intra-governmental fiscal transfers against direct federal spending, policymakers will require detailed information on the efficiency, equity and impact of the FAIS system. Appropriate transparency requirements are now in place, but these will need to be complemented by a corresponding evaluation framework. Current data limitations would constrain this analysis, but as more information is produced a more thorough study could be designed.

68. **Mexico has a well-developed monitoring and evaluation framework for social assistance programs, and efforts should be made to more effectively utilize the wealth of information generated by monitoring and evaluation scorecards.** CONEVAL's annual Budget Considerations report is specifically designed to inform budget decisions, and it encompasses a range of key performance indicators. CONEVAL could be requested to summarize the findings of multiple reports in order to provide a more longitudinal perspective on the evolution of social programs.

69. **Social protection and labor market programs have had a positive impact in terms of promoting equity and alleviating poverty; the measures described above would both further enhance the effectiveness of these programs and enable their continued expansion in a context of mounting fiscal pressures.** Administrative tools such as the single registry of beneficiaries, efforts to cross-check federal, state and local program records, and additional analysis of the effectiveness of federal transfers would all contribute to a more targeted, streamlined and efficiently administered social protection sector in Mexico.

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MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 9: Subsidies for Productive Inclusion



This chapter was prepared by Samuel Freije-Rodriguez, Daniel Valderrama and Héctor Juan Villareal. The authors would like to thank Svetlana Edmeades, Eva Gutiérrez, Leonardo Iacovone and Angélica Núñez for their input and comments.

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EXECUTIVE SUMMARY

Mexico allocates a larger share of its budget to economic development than most comparable countries. Mexico's government devotes roughly 36 percent of its total expenditures to economic affairs, far above the OECD average of 12 percent. The category of "economic affairs" encompasses spending on all economic sectors, as well as entrepreneurship programs, labor market programs and support to specific industries and types of firms (e.g. small and medium enterprises). Housing and urbanization programs have also been included under economic affairs in this analysis, as they drive growth in the construction sector. Meanwhile, social development expenditures, including public health, education and social security, represent 52.2 percent of the budget, well below the OECD average of 67 percent. The remaining 11.8 percent of Mexico's budget goes to all other aspects of public administration, almost half the OECD average of 21 percent.

Rural development, housing and small business subsidies play a particularly important role in economic development spending. Over the past decade funding for agriculture and rural development programs represented between 0.5 and 2 percent of the total budget, similar to the 0.8 to 2.4 percent range observed in other OECD countries.¹ However, housing and urban development represents almost 7 percent of Mexico's budget, more than double the maximum level of 3 percent among advanced OECD economies. And while internationally comparable data on entrepreneurship, small business, and research and development (R&D) spending are difficult to obtain, the available evidence indicates that Mexico's spends more in these areas than similar countries. For example, in 2013 Mexico spent a full 1.1 percent of the budget on just two institutions dedicated to entrepreneurship and R&D.

The budgetary importance of rural development, social housing and small business subsidies reflects the key challenges the country faces in these areas. Almost a quarter of Mexico's population lives in rural areas, and the rural poverty rate (61.6 percent) is far higher than the urban rate (40.6 percent). Rural poverty is perpetuated by the low productivity of labor in the agricultural sector. Rural-urban migration and urbanization are ongoing, and Mexico's cities face an estimated deficit of 9.6 million housing units caused by a combination of overcrowding and inadequate housing quality. More than 50 percent of the urban labor force is employed in small firms in the informal sector, which represent more than 99 percent of all firms in Mexico. These firms are rarely able to scale-up their operations or create high-paying jobs. Consequently, rural development, social housing and small business support are among Mexico's most urgent economic challenges.

Methodology

This chapter analyzes the impact of federal spending on rural development, housing and small business subsidies. These programs are not usually examined together, as they have multiple, sometimes disparate objectives, budgets, design specifics and implementation requirements. Their inclusion in a single chapter is not meant to imply that they should be merged or coordinated, or that they share common problems, face analogous challenges or require similar solutions. Rather, they are present as issues that coexist at different stages of the rural-urban development continuum. The analysis presented in this chapter draws on official budget data, international comparisons and impact evaluations. Its objective is to define the size and allocation of expenditures on rural development, housing and small business subsidies, determine the extent to which their distribution is pro-poor, and evaluate their contribution to the government's stated policy objectives.

¹ In Mexico this range refers to differences in how agricultural and rural expenditures are defined, whereas in the OECD the range refers to differences in expenditures between countries.

Main Messages

A substantial share of the rural and agriculture development budget may not be accurately classified as rural or agricultural development expenditures. Agricultural and rural development spending in Mexico goes far beyond the budget of the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (*Secretaría de Agricultura Ganadería, Desarrollo Rural, Pesca y Alimentación*, SAGARPA), and more than half of sector spending is executed via the Special Concurrent Program (*Programa Especial Concurrente*, PEC). SAGARPA leads the implementation of the sector development plan, while the PEC attempts to coordinate a complementary rural development strategy. In addition, a number of ministries have an “agriculture function”, which encompasses programs designed to improve quality of life in rural areas, address the needs of marginalized communities, or strengthen the productive capacity of the rural labor force. The complexity of programs and the distribution of functions across the public sector makes it difficult to accurately estimate the size and effectiveness of the rural development budget, with negative implications for transparency and accountability.

The fragmentation of rural and agricultural development programming heightens risks related to beneficiary duplication, administrative redundancies and financing leakages. The PEC budget, which totals 1.9 percent of GDP, is distributed across more than 100 programs. SAGARPA’s budget, equal to 0.56 percent of GDP, is divided among around 30 programs, and the “agriculture functions” of other ministries represent 0.65 percent of GDP spread over nearly 60 programs. Due to the large number of programs and the partially overlapping classifications of the federal budgets for PEC, SAGARPA and other ministries, estimating total agricultural and rural development spending requires identifying all public policies and programs that materially benefit the rural sector and then working backward to reconstruct the sector’s budget. While significant progress has been made in evaluating individual PEC, SAGARPA and agricultural function programs, an estimated 17.74 percent of the effective rural development budget is not currently subject to empirical evaluation. A full 43.2 percent of the unevaluated rural development budget goes to subsidies, and the efficiency, equity and impact of these programs cannot be reliably measured.

Mexico’s housing policies include public financing and co-financing arrangements for the construction, acquisition and renovation of new or existing houses, as well as subsidies for the poorest segments of the market. In recent years social housing subsidies have ranged from 0.5 and 0.65 percent of the total budget. They represent only one tenth of all housing and urban development expenditures, which are mostly devoted to urban infrastructure and public utilities. Since 2012 most social housing subsidies have been allocated through three programs: the Financing Scheme and Federal Housing Subsidy Program (*Programa de Esquema de Financiamiento y Subsidio Federal para Vivienda*), previously known as This is Your Home (*Esta es Tu Casa*), Decent Housing (*Vivienda Digna*) and Rural Housing (*Vivienda Rural*). The first concentrates on households with incomes equal to less than five times the minimum wage, while the other two focus on impoverished areas and marginalized communities. In addition, the High-Priority Zones Program (*Programa de Atención a Zonas Prioritarias*), provides subsidies to households that suffer from low housing quality, that lack access to basic services or that are located in areas with high rates of poverty. Half of total housing subsidies go to *Esta es Tu Casa*, and the other half is split between the other three programs.

Unlike rural development programs, the limited number of housing subsidies, their small budgetary size and the well-designed rules that govern their operations effectively prevent beneficiary duplication and leakages. *Esta es Tu Casa* subsidies mostly benefit households in moderate poverty, as well as some in the lower middle class, whereas the other three programs reach households in extreme poverty. The latter allocate most of their resources to areas with high concentrations of poor and extremely poor households, which appears to be an effective targeting strategy. However, there is limited evidence that these programs have reduced the housing deficit in general or in poor areas in particular. Indeed, some states that are home to a large share of extremely poor households receive fewer housing loans and have

registered an increase in the housing deficit. Meanwhile, states with fewer poor households have enjoyed both a large influx of housing loans and a swift reduction in the housing deficit. In addition, some states have begun to experience problems with abandoned houses, which signals efficiency losses in housing policy.

Mexico has a significant number of programs for promoting entrepreneurship, many of which focus on support to small and medium enterprises. However, few of the newer programs are subjected to proper impact evaluations, and consequently no definitive conclusions can be reached regarding their effectiveness. Moreover, some programs have overlapping beneficiaries or constitute parallel interventions, while others have ill-defined targets or are not grounded in a clear policy purpose. The government is currently redesigning and reorganizing many of these programs, with a clear trend towards consolidation. Under the current institutional framework productivity-enhancing programs are under the purview of the National Institute of Entrepreneurship (*Instituto Nacional del Emprendedor*, INADEM) and the National Council for Science and Technology (*Comision Nacional de Investigacion Cientifica y Tecnologica*, CONACyT), while programs focused on the promotion of equity and social inclusion are the responsibility of the National Institute of Economic Solidarity (*Instituto Nacional de la Economía Social*, INAES). Future evaluations should help to shed light on their effectiveness in terms of promoting employment and entrepreneurship, as well as advancing social protection and social development objectives.

Conclusions and Recommendations

Mexico's extremely numerous rural and agricultural development programs should be consolidated, and ineffective programs should be phased out. The programmatic structure of rural and agriculture development programs should be redesigned in order to better observe, quantify and evaluate their impact. All consolidated programs should be subject to regular evaluations, and their continued existence should be contingent on their proven effectiveness.

Policymakers should concentrate on urban development in order to maximize the effectiveness and ensure the pro-poor orientation of social housing subsidies. Urban planning problems, including issues with public security, access to utilities and transportation, and the distribution of employment opportunities, are creating serious distortions in the housing market that subsidies alone cannot resolve. Moreover, there is limited evidence that the provision of subsidies is increasing the number of housing loans or reducing the housing deficit, particularly in poorer areas. Formal-sector employment remains the principal driver of residential construction and mortgage lending, and the inverse correlation between poverty incidence and formal employment diminishes the pro-poor impact of housing subsidies.

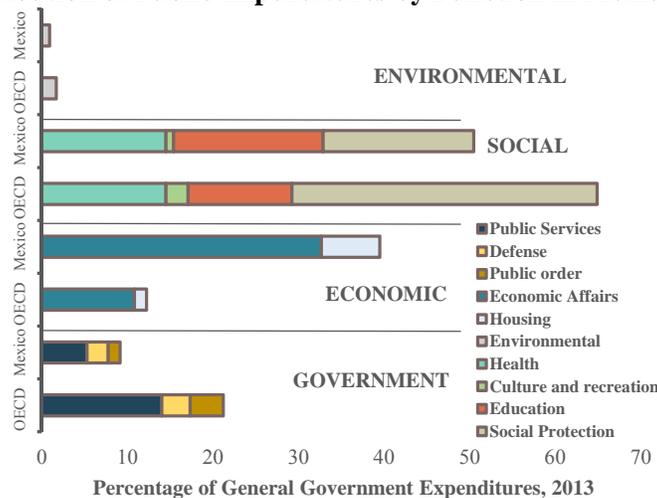
Support for small-scale entrepreneurship should focus on overcoming market failures and equity constraints that prevent self-employed entrepreneurs from growing their businesses or increasing their profit margins. Most current programs suffer from a lack of clarity in their target populations, development goals and performance indicators. The government is currently redesigning and reorganizing many of these programs, and future evaluations should help to shed light on their effectiveness in terms of promoting employment and entrepreneurship, as well as advancing social protection and social development objectives.

INTRODUCTION

1. **Mexico allocates a larger share of its federal budget to economic development activities than most comparable OECD countries.** Mexico’s government devotes roughly 36 percent of total expenditures to economic development, far above the OECD average of 12 percent.² By contrast, social development spending, including public health, education and social security, represents 52.2 percent of the budget, well below the OECD average of 67 percent. The remaining 11.8 percent of the budget finances all other aspects of public administration, a small share compared to the OECD average of 21 percent.

2. **These differences are partially explained by specific policy factors.** Social development spending is higher on average in the OECD than in Mexico due to the more generous social security and pension systems of most European countries. On the other hand, public spending on economic sectors represents a greater share of Mexico’s budget due in part to its large public expenditures on energy and housing. Mexico’s expenditures are close to OECD averages in most other budget sub-categories, especially environmental protection, defense, public order, health and cultural affairs (**Error! Reference source not found.**).

Figure 9.1: Distribution of Public Expenditures by Function in Mexico and the OECD



Source: World Bank staff calculations using data from OECD Statistics (https://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE11) and INEGI’s *Banco de Información Económica*.
 Note: These OECD averages are based on official statistics, which include most but not all OECD countries.

3. **Rural and urban development and the promotion of firm productivity play a particularly important role in Mexico’s economic affairs budget.** Over the past decade funding for agriculture and rural development programs represented between 0.5 and 2 percent of total spending (depending on the definition), similar to the 0.8-2.4 percent range for other OECD countries. However, housing and urban development represents almost 7 percent of total spending in Mexico, more than double the maximum of 3 percent among advanced OECD economies. And while comparable data on entrepreneurship, small business and research and development (R&D) support are difficult to obtain, the available evidence indicates that Mexico’s expenditures are high relative to those of similar countries. In 2013 Mexico spent a full 1 percent of its budget on just two institutions dedicated to entrepreneurship and R&D.

² In the following analysis “economic development” is defined to encompass spending on all industries, as well as housing and urbanization projects due to their impact on the construction sector. Public spending on housing is usually classified as social spending. In this chapter it is classified as “economic” spending in order to connect expenditure lines that are usually separate.

4. **While programs that promote rural development, social housing and the growth of small businesses are not typically regarded as related or analyzed together, all three play a critical role in addressing one of the most important development challenges facing Mexico.** Subsidies to reduce rural poverty, support social housing and facilitate small businesses development target key elements of Mexico's structural economic transformation. Almost a quarter of Mexico's population still lives in rural areas, and the rural poverty rate (61.1 percent) is far higher than the urban rate (40.7 percent). Rural poverty is due in large part to the low productivity of labor in the agricultural sector and wide rural-urban income gaps drive an ongoing process of urbanization. This contributes to Mexico's estimated deficit of 9.6 million housing units, which reflects a combination of overcrowding and inadequate housing quality in both urban and rural areas. Rapid urbanization is also linked to informality, and more than 50 percent of the urban labor force is employed in small firms in the informal sector, which represent more than 99 percent of all firms in Mexico. These firms are rarely able to scale-up their operations or create high-paying jobs. The complex relationship between an underdeveloped rural economy, inadequate housing and low productivity in the urban informal sector is fundamental to the challenge posed by Mexico's structural transformation.

5. **This chapter analyzes the impact of federal spending on rural development, housing and small business subsidies.** These programs have multiple, sometimes disparate objectives, design specifics and implementation requirements. Their inclusion in a single chapter is not meant to imply that they should be merged or coordinated, or that they share common problems, face analogous challenges or require similar solutions. Rather, they are present as issues that affect different stages of the rural-urban development continuum. The analysis presented in this chapter draws on official budget data, international comparisons and impact evaluations. Its objective is to define the size and allocation of expenditures on each program type, determine the extent to which their distribution is pro-poor, and evaluate their contribution to the government's policy objectives.

FEDERAL BUDGET FOR AGRICULTURE AND RURAL SECTOR DEVELOPMENT

6. **Over the past decade total spending on agriculture and sustainable rural development (ASRD) appears to have remained broadly constant as a share of the budget, though data limitations and definition issues complicate the analysis.** Between 2007 and 2014 programmable expenditures (*gasto programable*), the share of general government budget directly spent by public agencies, expanded at an average annual rate of 9.5 percent in nominal terms. Meanwhile, annual expenditures included under the "agricultural function" of sector ministries (various programs supporting a broad range of ASRD objectives) grew by an average of just 4.6 percent. As a result the share of the agricultural function in the general budget declined from 3.8 percent to 2.7 percent between 2007 and 2014. However, total ASRD spending appears to have grown at least as fast as the total federal budget.³

7. **This section analyzes Mexico's federal budget for ASRD.**⁴ ASRD policies are set out in both the Agricultural Sectoral Plan and the Special Concurrent Program (*Programa Especial Concurrente*, PEC). The Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (*Secretaría de Agricultura Ganadería, Desarrollo Rural, Pesca y Alimentación*, and SAGARPA) developed the

³ The Mexican federal budget can be organized by function, by executing agency, by program, or by type of expenditure. "Function" refers to the subject of intervention, for instance: Justice, Legislation, Foreign Service, Health, Transportation, Science and Technology. The category referred to in the paragraph is Agriculture, Forestry, Fishing and Hunting (*Agropecuaria, Silvicultura, Pesca y Caza*). When categorized by executing agency, the budget is distributed according to ministry (e.g., Justice, Defense, Agriculture, etc.) or federal agency (Science and Technology Council, CONACYT, Social Policy Evaluation Council, CONEVAL). These categories overlap, as some agencies have more than one function and some functions are the responsibility of more than one agency. See: <http://www.hacienda.gob.mx/EGRESOS/PEF/analiticos/Paginas/AnaliticosPEF2014.aspx>

⁴ This chapter draws on data from: (i) the Federal Budget (*Presupuesto de Egresos de la Federación*, PEF); (ii) the Public Accounts (*Cuenta Pública*); (iii) the National Household Income and Expenditure Survey (*Encuesta Nacional de Ingresos y Gastos de los Hogares*, ENIGH); (iv) data from the OECD, CEPAL and FAO databases; and (v) World Bank and OCDE Public Expenditure Reviews in agriculture and rural development.

Agricultural Sectoral Plan to guide the development of a productive agricultural and fisheries sector and ensure food security. In order to comply with the 2001 Law of Sustainable Rural Development (*Ley de Desarrollo Rural Sustentable*, LDRS) the PEC was created to combine different federal ASRD programs. Consequently, public spending on ASRD falls under three federal budget categories: (i) the budget assigned to SAGARPA; (ii) the programs included in PEC; and (iii) the budget for the agricultural functions of sector ministries. The programmatic structure of the federal budget (*Presupuesto de Egresos de la Federación*, PEF) does not differentiate between expenditures in rural and urban areas, and data from the PEC do not necessarily correspond to the official PEF database.⁵

8. **In 2015 federal spending on ASRD amounted to an estimated MXN 363.13 billion, or 7.8 percent of the PEF.** The overwhelming majority, MXN 358.83 billion, was allocated to the PEC and distributed among 106 individual programs. The PEC represented an estimated 7.6 percent of the PEF and 1.9 percent of GDP. However, this also includes some expenditures executed by SAGARPA and other ministries involved in the agricultural sector. SAGARPA's 2015 budget was MXN 92.14 billion, distributed among 38 programs; it represented 1.9 percent of the PEF and 0.56 percent of GDP. 95.5 percent of SAGARPA's budget was included in the PEC. Finally, MXN 108.72 billion was allocated to 58 other agricultural programs, representing 2.31 percent of the PEF and 0.65 percent of GDP. 96 percent of these expenditures were financed through the PEC. About a third of the ASRD budget was administered jointly by the PEC, SAGARPA, and/or the agricultural function of the sector ministries. Thus the total budget for ASRD is smaller than the sum of the PEC, SAGARPA and agricultural function budgets, obscuring the size and composition of the actual rural development budget. The gaps and redundancies between these different classifications are examined in greater detail below.

Analyzing Public Expenditures on ASRD in Mexico: The Sectoral Plan and the PEC

9. **The link between agricultural activities and rural development reflects the relative economic importance of the agricultural sector in rural.** In Mexico, 45 percent of the employed rural labor force works in the primary sector.⁶ While agricultural activities are very important to rural livelihoods, rural development does not depend on agricultural policy alone. Social service provision, good governance and support to nonagricultural sectors are also key elements of rural development. The government's current ASRD policy is based on the Agricultural Sectoral Plan and the PEC. The Agricultural Sectoral Plan, implemented by SAGARPA, is aligned with the National Development Plan (*Plan Nacional de Desarrollo*, PND).⁷ In the rural sector the PEC is the mechanism for implementing the LDRS.

10. **The Agricultural Sectoral Plan (2013-2018) has two overarching objectives: (i) to build a productive agriculture, livestock and fisheries sector that ensures Mexico's food security, and (ii) to guarantee the social rights of the rural population.** SAGARPA programs designed to advance these objectives represented about a fifth of its 2015 budget. The plan includes five goals directly related to agriculture and food security: (a) to boost food production through investment in physical, human and technological capital; (b) to promote partnerships that generate economies of scale and add value in food

⁵ Article 2, Section XXII of the Federal Budget Act and Fiscal Responsibility (*Ley Federal de Presupuesto y Responsabilidad Hacendaria*, LFPRH) defines the how spending agencies can advance the goals and objectives of the PND and classifies their actions in an effort to boost the expected return on the use of public resources.

⁶ The primary sector typically includes agriculture, livestock, fisheries forestry, and extractive industries. However, the definition used in this chapter excludes extractive industries.

⁷ The Agricultural Sectoral Plan is based on the 2013-2018 PND's Objective 4.1 "Build a productive agriculture and fisheries sector to ensure food security of the country," Objective 2.1 "Guarantee the effective exercise of social rights for the entire population" and Goal 2.1 "Ensure adequate food and nutrition for Mexicans, particularly those in extreme poverty or with severe food shortages."

production; (c) to safeguard the food supply through risk-management mechanisms; (d) to encourage the sustainable use of natural resources; and (e) to reduce the risk of food shortages in rural areas.

11. **The PEC comprises several federal ASRD programs designed to comply with the LDRS.** The LDRS focuses on improving the quality of life for the rural poor by developing their capacities through education, health, employment, food security and social security, and by ensuring environmental protection and sustainable economic growth. The LDRS created a framework to coordinate rural development activities and expenditures, and the law represents the first effort to introduce an innovative institutional architecture to ASRD that reflects a multidimensional concept of sustainable development.

12. **PEC programs are designed by the Inter-Ministerial Commission for Sustainable Rural Development (*Comisión Interministerial para el Desarrollo Rural Sustentable, CIDRS*) and organized into 10 categories.** The CIDRS's mandate is to improve the welfare of the rural population and promote inclusive national development.⁸ The LDRS created the PEC to regulate public expenditures on ASRD. The budget of the PEC is integrated in the PEF each year and is subject to its distribution guidelines.⁹

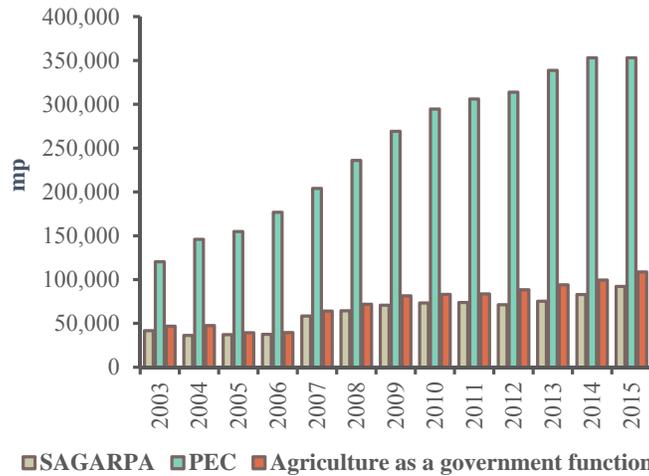
13. **SAGARPA oversees agricultural sector policy and coordinates the PEC, but it does not have authority over other ministries involved in executing PEC programs.** This is a weakness of the PEC, as SAGARPA cannot compel other ministries to align their programming with its own or redirect their resources to meet complementary rural development priorities in areas such as health or education.

14. **Over the years public spending on ASRD has increased substantially in nominal terms but remains broadly constant as a share of the budget.** In current prices the PEC grew at an annual rate of 9.5 percent from 2007 to 2015, very close to the annual growth rate of total public expenditures. The agricultural function programs of sector ministries grew at an annual average rate of 9.81 percent, and SAGARPA's budget grew at a rate of 8.27 percent. Consequently, PEC, agricultural function and SAGARPA spending have all either remained stable, or declined slightly, as share of the total budget since 2007 (Figure 9.2 and Figure 9.3).

⁸ LDRS, 2001. The CIDRS includes 14 ministries: SAGARPA, SE, SEMARNAT, SHCP, SCT, SS, SEDESOL, SRA, SEP, SENER and other executive branch offices relevant to LDRS objectives .

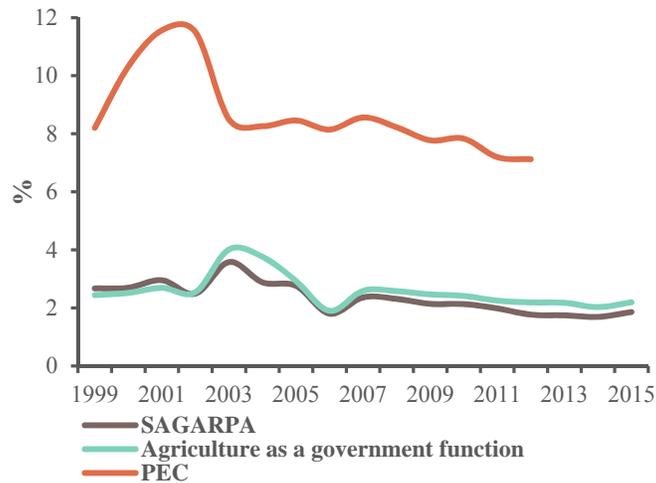
⁹ *Ibid.* The PEC's budget is presented in the 2015 PEF as Annex 11, but resource execution cannot be tracked because the reported amounts for different PEC programs do not correspond with the 2015 PEF. Moreover, the official PEF does not differentiate between the categories in the PEC annex. The budgets of some PEC programs are not the same as those approved in the PEF. The difference between the PEC budget and the PEF budget for 2015 is MXN 11.36 billion. While the LDRS established the PEC as the principal tool for ASRD, its execution has not been clearly reflected in the official PEF database.

Figure 9.2: The ASRD Budget in Current Prices



Source: PEF and *Transparencia presupuestaria*, 2003-2015.

Figure 9.3: ASRD as Share of the Budget

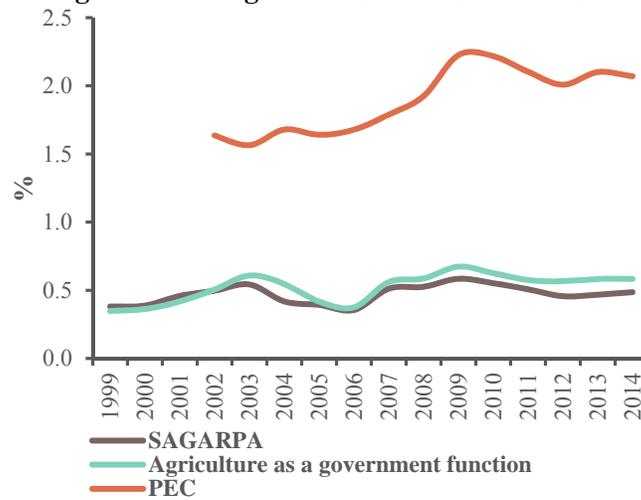


Source: SHCP

15. **All categories of the approved ASRD budget have either remained constant or expanded as a share of GDP.** Between 2003 and 2015 the PEC rose to a high of 2.22 percent of GDP, as both SAGARPA and total agricultural function spending peaked in 2009 at 0.58 and 0.67 percent of GDP, respectively. While PEC spending continued to increase in 2010 SAGARPA and the agricultural function have remained broadly constant as a share of GDP (Figure 9.4). However, spending on each of these programs has declined as a share of the total public sector budget, which has grown at a faster rate than GDP.¹⁰

¹⁰ Given the identity $ASRD/PIB = ASRD/Budget * Budget/PIB$, a rising first term and a flat or declining second term occurs only if the third term rises. Percentage changes in the right-hand term approximate the sum of percentage changes in the two right-hand terms: during 2007-2014 the agricultural function fell from 0.62 percent of GDP to 0.57 percent (-1.2 percent per year) and from 3.8 percent of the budget to 2.7 percent (-4.4 percent per year), while the budget increased from 16.6 percent of GDP to 21 percent (+3.4 percent per year). A decline of 1.2 percent broadly reflects -4.4 percent plus 3.4 percent.

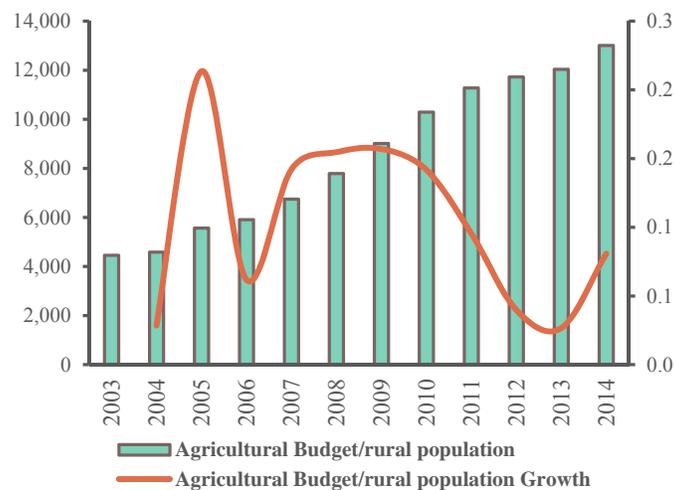
Figure 9.4: Budget for ASRD as Share of GDP



Source: Prepared with information from SHCP. Obtained from <http://www.shcp.gob.mx/EGRESOS/PEF/Paginas/DocumentosRecientes.aspx>

16. **Moreover, ASRD spending has consistently increased relative to the size of the rural population.** This due to both the continuous growth of ASRD spending and a secular decline in the share of the rural population in Mexico.¹¹ Figure 9.5 shows that in from 2004-2014 the ASRD budget almost tripled relative to the size of the rural population (from MXP 4,458 per rural inhabitant in 2004 to MXP 13,009 in 2014). This trend underscores the importance of determine the extent to which the increasing allocation of resources to the rural population has advanced the government’s development objectives.

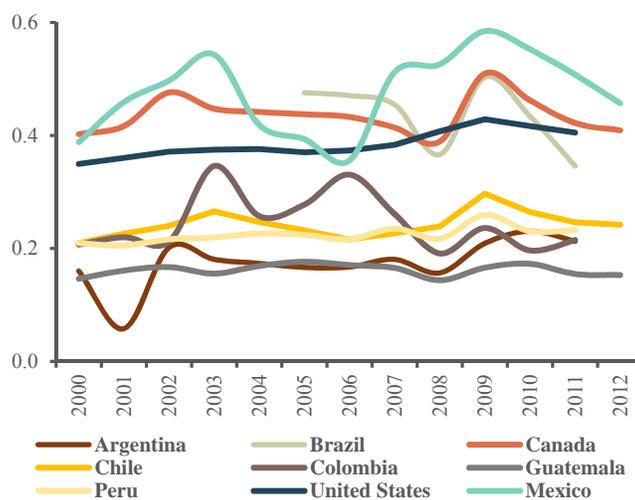
Figure 9.5: Budget for ASRD per Rural Population



Source: Elaborated with World Bank data for Mexico (rural population) and SHCP

¹¹ Given the identity $ASRD/RuralPop = ASRD / PIB * PIB/Pop * Pop/RuralPop$, the percentage change in the left-hand term is approximately equivalent to the sum of the percentage changes in each of the three right-hand terms. For the period 2007-2014 agricultural function spending rose from MXN 2,720 to 3,760 per rural inhabitant (an annual average growth rate of 4.7 percent in nominal terms and about 0.4 percent in real terms). The agricultural function declined as a share of GDP by 1.2 percent per year. PIB per head grew by 4.6 percent per year in nominal terms (or about 0.3 percent in real terms), and the ratio of the total population to the rural population rose at an annual average rate of 1.3 percent. Hence, the 0.4 annual percent increase in real budget allocations can be decomposed into -1.2 percent (due to lower spending), +0.3 percent (due to higher average real productivity) and +1.3 percent (due to a smaller rural population share).

17. **Mexico allocates more public resources to ASRD than comparable countries in the region.** Mexico allocates around 0.5 percent of its GDP to ASRD spending, whereas Brazil, Argentina and Colombia allocate less than 0.4 percent (Figure 9.6: ASRD Budget as Share of GDP)



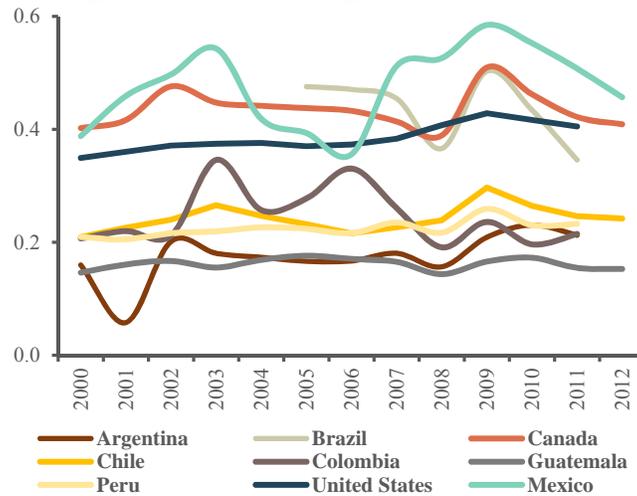
Source: World Bank

18. Figure 9.7).¹² Mexico also spends proportionately more than its peers as a share of agricultural product.¹³ However, the value added in Mexico’s agricultural sector is lower than that of Brazil, Argentina and Colombia, as well as the average for the Latin America and the Caribbean (LAC) region as a whole (Figure 9.7**Error! Reference source not found.**). This calls in to question the effectiveness of Mexico’s ASRD spending in terms of increasing value added in the agricultural sector.

¹² Data may vary in other figures due to different sources. For international comparisons the PEC is not considered agricultural spending because it includes other expenditures oriented to rural sustainable development.

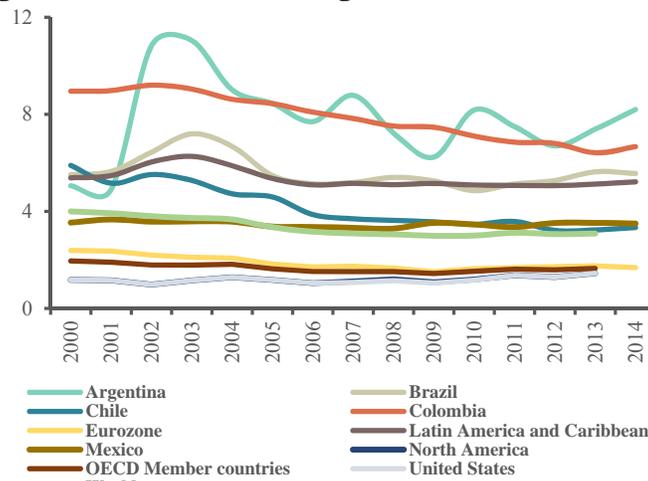
¹³ Given the identity $\text{AgrBudget}/\text{PIB} = \text{AgrBudget}/\text{AgrPIB} * \text{AgrPIB}/\text{TotalPIB}$, the inter-country percent difference of the left-hand term is approximately equivalent to the sum of inter-country percent differences of the two right-hand terms. For instance, in 2013—the latest year for which comparable data are available—Spain spent 0.4 percent of GDP on agricultural function programs, whereas Mexico spent 0.6 percent (i.e. Mexico spent 46 percent more than Spain in GDP terms). This is because agriculture represents a larger share of total GDP in Mexico (3.4 percent versus 2.5 percent), and because Mexico’s budget in the agricultural function is larger as a proportion of agricultural GDP (16.4 percent versus 15.0 percent).

Figure 9.6: ASRD Budget as Share of GDP



Source: World Bank

Figure 9.7: Value Added in Agriculture as Share of GDP



Source: World Bank

Gaps and Overlaps: ASRD Spending in the 2015 PEF

19. **The ASRD budget comprises a large number of programs with very different objectives.** SAGARPA and agriculture function expenditures mainly focus on standard agricultural development programs. However, the PEC expenditures of various ministries encompass a wide range of programming designed to improve quality of life in rural areas, address the needs of marginalized communities, or strengthen the productive capacity of the rural labor force.¹⁴ However, some ARSD expenditures are redundantly classified in the PEC, SAGARPA and agriculture function budgets.

20. **Under the 2015 PEF the PEC integrates ARSD programs from ten ministries and two branches of the general government.** The Ministry of Social Development receives the largest share of the budget (27.1 percent), followed by SAGARPA (24.5 percent) and the Secretary of Health (23.3 percent)

¹⁴ The PEC includes agricultural function programs and others related to social security, education, labor and the environment.

(Table 9.1). MXN 358.8 billion is distributed between 112 different programs, 42 of which (totaling MXN 113.5 billion) are subsidies. 29.1 percent of PEC funding goes to economic activities, 28.8 percent to social protection and 26 percent to health (Table 9.2 **Error! Reference source not found.**). Most subsidies finance primary economic activities (75.6 percent), followed distantly by social protection (10.8 percent). This means that nearly a quarter of the total PEC budget is spent on agricultural subsidies, while just over 3 percent goes to rural social protection.

Table 9.1: PEC Expenditures by Ministry, 2015

	PEC in PEF 2015 (MXN millions)	% of PEC budget	Subsidies in PEC	Subsidies as % of PEC	Number of subsidy programs
SAGARPA	88,021.5	0.2	75,788.7	68.1	13
SEDESOL	97,311.0	0.3	9,517.2	8.5	5
Health	83,417.5	0.2	0.0	0.0	0
SEP	25,393.2	0.1	30.4	0.0	1
SEMARNAT	19,551.1	0.1	9,137.6	8.2	7
SHCP	17,020.7	0.0	12,388.3	11.1	9
Contributions to Social Security	10,069.3	0.0	350.0	0.3	1
SEDATU	4,836.7	0.0	1,351.1	1.2	3
SE	11,664.6	0.0	2,757.2	2.5	3
Agrarian Courts	1,039.9	0.0	0.0	0.0	0
SECTUR	115.6	0.0	0.0	0.0	0
Foreign Affairs	83.0	0.0	0.0	0.0	0
Total	358,524.1	1.0	111,320.5	100.0	42

Source: 2015 PEF and PEC

Table 9.2: PEC Expenditures by Function, 2015

	PEC in PEF 2015 (MXN millions)	% of PEC budget	Subsidies in PEC	% of Subsidies in PEC
Forestry, Fishing and Hunting	104373.4	29.1%	83645.7	75.1
Economic Trade and Labor Affairs	11664.6	3.3%	4752.3	4.3
Science, Technology and Innovation	5778.9	1.6%	3715.1	3.3
Coordination and Government Policy	344.0	0.1%	0	0.0
Education	28870.2	8.1%	30.4	0.0
Justice	1843.8	0.5%	203.8	0.2
Other Social Affairs	1055.2	0.3%	0	0.0
Social Protection	103488.5	28.9%	12256.6	11.0
Foreign Affairs	83.0	0.0%	0	0.0
Health	93486.8	26.1%	350	0.3
Tourism	115.6	0.0%	0	0.0
Housing and Community Services	7420.3	2.1%	6366.9	5.7
Total	358524.1	100.0%	111,320.5	100.0

Source: 2015 PEF and PEC

21. **Subsidies represent a large share of SAGARPA's budget.** SAGARPA's 2015 budget is MXN 92.1 billion, which is distributed among 38 programs. Subsidies represent 85 percent of the total budget, or

MXN 77.8 billion spread across 18 programs. As with the PEC, most SAGARPA funds are allocated to agricultural development activities (Table 9.3).

Table 9.3: SAGARPA Expenditures by Function, 2015

	PEC in PEF 2015 (MXN millions)	% of PEC budget	Number of subsidy programs	% of Subsidies in PEC	Subsidies as a % of total budget
Agriculture, Forestry, Fishing and Hunting	82561.3	0.9	17.0	74099.2	95.2
Science, Technology and Innovation	5731.8	0.1	1.0	3715.1	4.8
Coordination and Government Policy	275.1	0.0	0.0	0.0	0.0
Education	3573.6	0.0			0.0
Total	92141.8	1.0	18.0	77814.3	100.0

Source: 2015 PEC and PEF

22. **Finally, examining budget expenditures classified as part of the agriculture function of sector ministries reveals a total budget of MXN 108.8 billion divided between 58 programs.** Subsidies account for 81 percent of agricultural function spending spread over 29 programs (Table 9.4). SAGARPA represents three quarters of the budget allocated to the agricultural function, which is not surprising as it is ministry most directly responsible for agricultural development.

Table 9.4: Agriculture's Budget by Ministry, 2015

Agriculture Function Agency	PEF 2015 (MXN millions)	%of Agency budget	Number of Subsidy Programs	Subsidies (MXN millions)	Subsidy as a % of total budget
SAGARPA	82,561.26	0.76	17	74,099.16	68.1
SEMARNAT	19,029.13	0.17	7	9,168.31	8.4
SEDATU	3,348.55	0.03	2	577.89	0.5
SHCP	3,836.19	0.04	3	1,856.59	1.7
Total	108,775.12	1.00	29	85,701.95	78.8

Source: 2015 PEC and PEF

23. **There is a great deal of overlap in ASRD programming.** The 2015 ASRD budget of MXN 363.24 billion is distributed across 106 programs and represents 7.4 percent of the PEF. ASRD programming encompasses 58 agricultural function programs, 35 SAGARPA programs and 98 PEC programs.¹⁵ Programmatic overlaps create 6 categories described below and illustrated in Figure 9.8.

24. **The PEC, SAGARPA and the agriculture function share 21 programs totaling MXN 78.75 billion.** A full 21.7 percent of the ASRD budget is redundantly classified under all three spending structures. These primarily represent the public ASRD expenditures executed by SAGARPA, which are also included in the PEC annex and in the agriculture function (Area A).

25. **32 agriculture function programs with a combined budget of MXN 25.62 billion are included in PEC but not executed through SAGARPA.** 6.8 percent of ASRD expenditures are coordinated by SEDATU, SHCP and SEMARNAT, and not by SAGARPA, even though these resources are identified as agricultural function programming. SEMARNAT coordinates 72.3 percent of these expenditures. While

¹⁵ This analysis uses data from the official PEF 2015 database and the PEC annex. Because some programs are shared by multiple institutions or serve multiple functions the reported number of ASRD programs may differ in other analyses.

these programs may focus on the rural sector, broadly defined, they may or may not address the welfare of the rural population (Area B).

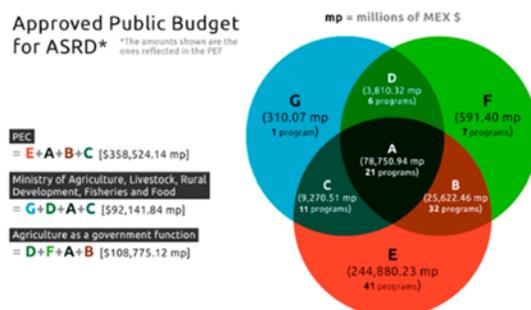
26. **2.6 percent of the PEC budget (MXN 9.27 billion) is allocated to SAGARPA to support 11 non-agricultural programs with social objectives.** While these programs are included in the PEC, they are not strictly related to rural development. 60 percent of their combined budget is allocated to the urban Federal District, and the remaining 40 percent is allocated to just 4 of Mexico’s 31 states: Estado de México, Coahuila, Sinaloa and Guerrero (Area C).

27. **The ASRD budget also encompasses programs that are headed by SAGARPA, and defined as agricultural function programming, but not included in the PEC.** These programs have a combined budget of MXN 3.81 billion, or 1 percent of the total ASRD budget. Just over half of these expenditures are agricultural subsidies not included in the PEC, and their focus is not on sustainable rural development. The program with the largest budget at 1.93 billion, or 2.09 percent of SAGARPA’s budget, is the Implementation of Actions to Improve Health through Phytosanitary Inspections (*Instrumentación de Acciones para Mejorar las Sanidades a través de Inspecciones Fitozoosanitarias*), an economic development program that lacks operational rules (Area D).

28. **The PEC encompasses MXN 244.88 billion in spending that is neither defined as agricultural function programming, nor implemented by SAGARPA.** 65.1 percent of ASRD spending is coordinated by different ministries, each with its own objectives, beneficiaries and operating rules. Of the 41 programs in this area, 8 are economic programs, 29 are social programs and 6 are for governmental functions.¹⁶ 49.7 percent of this budget is allocated to the Federal District. 30.5 percent finances *Seguro Popular*, Mexico’s national health insurance program, which benefits both rural and urban populations nationwide, and 19.8 percent is allocated to the states of Coahuila, Baja California, Morelos and Aguascalientes (Area E).

29. **The remaining 0.25 percent of the ASRD budget includes 8 economic programs.** Area G includes only one program, the Innovation, Research, Technological Development and Education Program (*Programa de Innovación, Investigación, Desarrollo Tecnológico y Educación*), headed by SAGARPA. As its total budget is not geographically distributable, it is not possible to determine from the programmatic structure whether its resources are spent in rural areas. Due to its focus on R&D its funds are likely to be spent in urban areas, where most research centers are located, but the research the program finances may benefit rural or agricultural development. The other 7 programs are included in the agricultural function but are not related to SAGARPA or the PEC (Area F).

Figure 9.8: Overlapping Budgets in ASRD



Source: Prepared with information of 2015 PEF and PEC

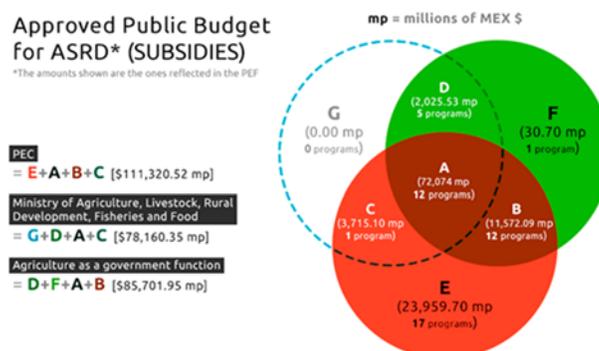
¹⁶ The sum is greater than the individual components due to some programs appearing in one or more categories.

Note: areas are not proportional to budget or number of programs

30. **Subsidies represented 31.8 percent of ASRD spending in 2015, totaling MXN 113.33 billion distributed between 48 programs.**¹⁷ The Program to Promote Agriculture (*Programa de Fomento a la Agricultura*), the Marketing and Market Development Program (*Programa de Comercialización y Desarrollo de Mercados*) and the Livestock Development Program (*Programa de Fomento Ganadero*) are the subsidy programs with the largest ASRD budget, representing 35 percent of rural subsidies. 63.6 percent of rural subsidies, or MXN 72 billion, are in overlapping PEC, SAGARPA and agricultural function programs. All of these are producer subsidies identified in the PEC as programs to promote the competitiveness of the rural sector, classified as agricultural function programs in the budget, and implemented under the jurisdiction of SAGARPA.¹⁸ SAGARPA subsidies not included in the PEC total 2.6 percent (MXN 2.026 billion) of SAGARPA's budget. Most have narrowly focused objectives, such as the National Program for Control of African Bees (*Programa Nacional para el Control de la Abeja Africana*) and the Integrated System for Sustainable Sugarcane Development (*Sistema Integral para el Desarrollo Sustentable de la Caña de Azúcar*).

31. **The PEC encompasses most ASRD direct transfers.** 98.2 percent of ASRD subsidies are included in the PEC. Nevertheless, 21.1 percent of PEC subsidies do not support agricultural objectives targeted by SAGARPA or defined as part of the agricultural function (Figure 9.9). Instead, these subsidies are used for other activities such as health, education, social protection or administrative purposes. Given the multiple ministries involved in implementing these subsidy programs, it is difficult to determine what share of the budget directly supports rural areas.

Figure 9.9: Overlapping Subsidy Programs in ASRD



Source: Prepared with information of 2015 PEF and PEC
 Note: areas are not proportional to budget or number of programs

32. **Some ASRD programs are disjointed, with scattered, overlapping and disparate objectives, and their complexity greatly complicates both strategic planning and results monitoring.** The LDRS calls for an overarching strategy for sustainable rural and agricultural development and poverty reduction. Such a strategy requires a clearly defined budget, in which all programs contribute to ASRD objectives in

¹⁷ This refers to programs that include resources identified by the PEF expenditure classification 4300 “Grants and Subsidies”. Other current and capital expenditures are also considered because they are necessary to implement the program. In addition, it is important to highlight that programs not exclusively focused on rural populations are not considered here, including PROSPERA, Seguro Popular, Pensión para Adultos Mayores, Seguro Médico Siglo XXI, Programa de Apoyo Alimentario, Programa de Coinversión Social and IMSS-PROSPERA. Even when these programs are included in PEC, the exact amount of their budgets spent on rural sector is not defined.

¹⁸ Programa de Fomento a la Agricultura, Programa de Concurrencia con las Entidades, Programa de Comercialización y Desarrollo de Mercados and Programa de Fomento Ganadero are included in all the classifications.

accordance with the LSDR. Reforming budget allocation processes and strengthening the authority and planning capacities of the CIDRS will help to ensure that all ASRD resources effectively advance the goals of the government's agricultural and rural development strategy.

The Efficiency, Effectiveness and Equity of ASRD Subsidies in Mexico

33. **The LFPRH defines the efficiency of public spending as the execution of the budget on time and according to the correct procedures.** Under this definition most ASRD subsidy programs have been executed efficiently (i.e. have been fully disbursed). However, there is a significant difference between the executed budget and the budget approved in the PEF. The LFPRH allows the SHCP to modify the approved budget during the fiscal year if public policy goals require it.¹⁹ On the other hand the *effectiveness* of public expenditures is defined in the LFPRH as the achievement of the objectives set forth in the legislation.²⁰ 93 of 107 ASRD programs have an assessment mechanism designed to measure their effectiveness. The efficiency and effectiveness of ASRD expenditures will be discussed in the following subsection, which is followed by a summary of available evaluations for selected programs. The section concludes with a discussion of the *equity* of expenditures, as defined by their geographic distribution and the income level of their beneficiaries.

Measures of Efficiency and Effectiveness in ASRD Expenditures

34. **In 2014 there were 48 ASRD subsidy programs in Mexico.** In the approved budget, modified by the SHCP, these subsidies²¹ amounted to MXN 110.24 billion. The executed budget was MXN 107.78 billion, a difference of MXN 2.46 billion. While the total approved subsidies budget exceeded the executed budget by less than 3 percent, there were major differences between the subsidy programs approved by Congress and those actually implemented. In only 2 programs did the executed budget equal the approved budget: the National Scholarship Program (*Programa Nacional de Becas*) and the National Agricultural Research System (*Sistema Nacional de Investigación Agrícola*). The Support Fund for Sustainable Rural Development (*Fondo de Apoyo para el Desarrollo Rural Sustentable*), the Improving Water Efficiency in Agricultural Areas (*Mejora de Eficiencia Hídrica en Áreas Agrícolas*) program, and the National Program for the Control of African Bees (*Programa Nacional para el Control de la Abeja Africana*) had approved budgets of MXN 300 million, MXN 268.7 million and MXN 3 million, respectively, but they did not disburse any resources. Meanwhile, the Sustainable Modernization of Traditional Agriculture (*Modernización Sustentable de la Agricultura Tradicional*) program, which did not have an approved budget for 2014, ended the year with an executed budget of MXN 262.5 million. Finally, many of the government's major ASRD subsidy programs experienced significant variations between their approved and executed budgets: *Programa de Fomento a la Agricultura* and *Programa de Comercialización y Desarrollo de Mercados* spent 9.7 and 2.1 percent more than their approved budgets, respectively, while *Programa de Fomento Ganadero* spent 21.2 percent less than its approved budget.

35. **The LFPRH allows the ministries, and particularly the SHCP, to make discretionary adjustments to the approved budget without providing justification; this weakens legislative control of the budget process, as Congress approves the original budget but does not authorize modifications.** In 2014 48 programs received a budget for ASRD subsidies, and 43 of them executed a different amount. 12 programs overspent their budgets by 10 percent or more, and 14 underspent by 10 percent or more (Table 9.5). Certain large programs experienced considerable variations: *Programa de Fomento a la Agricultura*

¹⁹ This "requirement" is not always explicitly defined and can be a source of ambiguity.

²⁰ This definition refers to outputs, not outcomes. In some cases output indicators may not accurately reflect outcomes.

²¹ This sum is for subsidies identified by "object of expenditure" (Subsidios a Entidades Federativas y Municipios 43801, Subsidios a fideicomisos privados y estatales 43902, Subsidios a la distribución 43201, Subsidios a la prestación de servicios públicos 43401, Subsidios a la producción 43101, Subsidios al consumo 43701, Subsidios para capacitación y becas 43901, Subsidios para inversión 43301).

overspent by MXN 2 billion, or nearly 10 percent of its original budget, while the *Programa Integral de Desarrollo Rural* and *Programa de Fomento Ganadero* underspent by MXN 3.5 billion, nearly 20 percent of their original budget. Total “budgetary churning” (i.e., the sum of all underspending and overspending in absolute terms) reached 15 percent of the original budget. Significant differences between approved and executed program budgets reflect the need for stronger budget planning processes and improved oversight.

Table 9.5: In-Year Federal Budget Modifications to ASDR Programs, 2014 (MXN millions)

Program	Approved budget(mp) (a)	Modified by SHCP (mp) (b)	Accrued budget (mp) (c)	Absolute Variation (c-a)	Percent Variation (c-a)/a
Programs that reduced budget					
Programa Integral de Desarrollo Rural	12,965.2	10,664.2	10,664.2	(2,301.0)	-17.7%
Programa de Fomento Ganadero	6,205.2	4,891.5	4,891.5	(1,313.7)	-21.2%
Programa para el Desarrollo de Zonas Prioritarias	6,850.7	5,557.6	5,557.6	(1,293.1)	-18.9%
Fondo Nacional Emprendedor	6,296.5	5,317.0	5,317.0	(979.5)	-15.6%
Programa Nacional Forestal-Desarrollo Forestal	2,723.1	2,137.3	2,137.3	(585.8)	-21.5%
Programa de Infraestructura Indígena	7,046.8	6,511.5	6,511.5	(535.3)	-7.6%
Programa de Concurrencia con las Entidades Federativas	4,587.4	4,185.8	4,185.8	(401.5)	-8.8%
Programa de Innovación, Investigación, Desarrollo Tecnológico y Educación	3,593.2	3,221.6	3,221.6	(371.6)	-10.3%
Fondo de Apoyo para el Desarrollo Rural Sustentable	300.0	-	-	(300.0)	-100.0%
Mejora de Eficiencia Hídrica en Áreas Agrícolas	268.7	-	-	(268.7)	-100.0%
Programa de Apoyo para la Productividad de la Mujer Emprendedora	1,141.8	884.8	884.8	(257.1)	-22.5%
Programa de Fomento a la Productividad Pesquera y Acuicola	2,137.5	1,939.8	1,939.8	(197.7)	-9.3%
Instrumentación de acciones para mejorar las Sanidades a través de	1,863.9	1,706.8	1,706.8	(157.1)	-8.4%
Programa de Fomento a la Economía Social (FONAES)	2,350.5	2,239.0	2,239.0	(111.5)	-4.7%
Programa de Apoyo a la Educación Indígena	1,025.4	936.6	936.6	(88.8)	-8.7%
Programa de Adecuación de Derechos de Uso de Agua	114.2	28.4	28.4	(85.8)	-75.1%
Seguridad Social Cañeros	350.0	293.9	293.9	(56.1)	-16.0%
Sistema Nacional de Investigación Agrícola	61.3	15.0	15.0	(46.3)	-75.5%
Programa de Apoyo a los Fondos de Aseguramiento Agropecuario	151.3	112.3	112.3	(39.0)	-25.8%
Programa de Atención a Jornaleros Agrícolas	305.5	267.0	267.0	(38.5)	-12.6%
Programa para el Mejoramiento de la Producción y la Productividad Indígena	1,265.7	1,237.0	1,237.0	(28.8)	-2.3%
Actividades orientadas a ofrecer productos y servicios para fortalecer el	153.8	133.1	133.1	(20.6)	-13.4%
Programa de apoyo para los núcleos agrarios sin regularizar (FANAR)	334.7	322.2	322.2	(12.5)	-3.7%
Programa de Derechos Indígenas	235.3	224.9	224.9	(10.4)	-4.4%
Programa de Apoyo a Jóvenes para la Productividad de Futuras Empresas	200.0	189.7	189.7	(10.3)	-5.2%
Sistema Integral para el Desarrollo Sustentable de la Caña de Azúcar	20.7	14.3	14.3	(6.4)	-30.8%
Fondo de Microfinanciamiento a Mujeres Rurales (FOMMUR)	201.6	196.9	196.9	(4.7)	-2.3%
Programa Nacional para el Control de la Abeja Africana	3.0	-	-	(3.0)	-100.0%
Actividades orientadas a otorgar apoyos para la Inclusión Financiera y el					
Fortalecimiento del Sector de Ahorro y Crédito Popular y Cooperativo	50.0	47.4	47.4	(2.6)	-5.2%
Programa de Seguro para Contingencias Climatológicas	93.7	93.7	93.7	(0.0)	0.0%
Programs that increased budget					
Programa de Fomento a la Agricultura	20,599.8	22,601.1	22,601.1	2,001.3	9.7%
Programa de Empleo Temporal (PET)	1,323.9	2,722.3	2,720.4	1,398.4	105.5%
Programa de Subsidio a la Prima del Seguro Agropecuario	1,308.8	1,919.7	1,919.7	610.9	46.7%
Programa de Sanidad e Inocuidad Agroalimentaria	1,939.0	2,485.2	2,485.2	546.2	28.2%
Programa Nacional Forestal Pago por Servicios Ambientales	2,134.1	2,627.3	2,627.3	493.3	23.1%
Apoyos Especiales en Distrito de Riego y Unidades de Riego	349.1	740.7	740.7	391.6	112.2%
Programa de Productividad y Competitividad Agroalimentaria	6,309.0	6,691.6	6,691.6	382.5	6.1%
Modernización Sustentable de la Agricultura Tradicional	-	262.5	262.5	262.5	-
Programa de Rehabilitación, Modernización, Tecnificación y Equipamiento de	2,100.0	2,311.6	2,311.6	211.6	10.1%
Programa de Vivienda Rural	735.2	942.0	942.0	206.8	28.1%
Programa de Rehabilitación, Modernización, Tecnificación y Equipamiento de	1,177.7	1,383.7	1,383.7	206.0	17.5%
Programa de Comercialización y Desarrollo de Mercados	8,072.1	8,239.3	8,239.3	167.2	2.1%
Fondo para el Apoyo a Proyectos Productivos en Núcleos Agrarios (FAPPA)	700.0	801.1	801.1	101.1	14.4%
Sistema Nacional de Información para el Desarrollo Sustentable (Coejercicio)	261.4	301.2	301.2	39.9	15.2%
Fomento de la Ganadería y Normalización de la Calidad de los Productos	10.0	41.7	41.7	31.7	316.8%
Vinculación Productiva	65.6	78.3	78.3	12.7	19.4%
Programas del Fondo Nacional de Fomento a las Artesanías (FONART)	118.2	121.4	121.4	3.2	2.7%
Programa Nacional de Financiamiento al Microempresario	108.0	110.3	110.3	2.3	2.1%
Programa Nacional de Becas	30.4	30.4	30.4	-	0.0%

Source: Secretaría de Hacienda y Crédito Público, Proyecto de Presupuesto de Egresos de la Federación, 2012, 2013, 2014 and 2015

36. **Indicators of expenditure effectiveness, defined as achieving progress against predetermined objectives, are generally favorable.** Table 9.6 shows the indicators and approved, modified and executed budget targets for a selection of large ASRD subsidy programs in 2013 and 2014. These programs achieve nearly 100 percent of targets. In some cases, the modified target is higher or lower than the original budget

target, but in most cases the amount executed nearly matches the modified target. However, achieving budget targets does not necessarily demonstrate that a program is effective in meeting its intended policy objectives, and only performance evaluations can determine this.

Table 9.6: Result Indicators from Selected ASRD Subsidies in 2013 and 2014

		2012	2013	2014
Programa de Fomento a la Agricultura				
Indicator**	Percentage of hectares supported with agroincentivos			
	Approved	18,325,000,000	18,250,000,000	20,599,847,598
	Modified*		15,822,890,194	22,837,560,757
	Executed	18,004,825,601	15,822,890,194	22,837,545,264
Programa de Fomento Ganadero				
Indicator	Productivity index of the employed population in the primary sector			
	Approved	9,938,000	-	6,205,205,602
	Modified*		20,749,750	4,961,460,554
	Executed	11,428,896	20,749,750	4,961,422,503
Programa de Comercialización y Desarrollo de Mercados				
Indicator	Index change in gross income among supported agricultural and fishery producers			
	Approved	80,000,000	80,000,001	8,072,147,699
	Modified*		34,175,375	8,631,008,311
	Executed	11,383,042	34,175,375	8,630,992,424
Programa de Fomento a la Productividad Pesquera y Acuícola				
Indicator	Percentage of aquaculturists and fishermen receiving direct incentives for productive efficiency			
	Approved	1,210,089,674	1,207,500,017	2,137,525,822
	Modified*		1,106,400,820	1,974,279,215
	Executed	996,398,309	1,106,400,820	1,974,278,982

Source: World Bank staff calculations using *Cuenta Pública* 2012, 2012, 2013 and 2014.

Notes: (*) For year 2013 the modified and executed budget coincided; (**) Indicator of goal for the component of the Program *PROAgro Productivo*. The indicators are established in the MIR (2014). *Programa Fomento a la Agricultura* in 2013 was *PROCAMPO Productivo*. *Programa Fomento a la Agricultura* in 2012 and *Programa de Apoyo al Ingreso Agropecuario*: *PROCAMPO para Vivir Mejor*. *Programa Fomento Ganadero* in 2012 and 2013 was *Fomento de la Ganadería y Normalización de la Calidad de los Productos Pecuarios*. *Programa de Comercialización y Desarrollo de Mercados* in 2012 and 2013 was *Desarrollo de Mercados Agropecuarios y Pesqueros e Información*. *Programa de Fomento a la Productividad Pesquera y Acuícola* in 2012 and 2013 was *Apoyo al cambio tecnológico en las actividades agropecuarias, rurales, acuícolas y pesqueras*.

37. **Performance evaluations by the National Council for the Evaluation of Social Development Policy (Consejo Nacional de Evaluación de la Política de Desarrollo Social, CONEVAL)²² and audits by the Superior Audit Office (Auditoría Superior de la Federación, ASF) are the primary means for evaluating ASRD programs in Mexico.** Performance evaluations gauge a program’s progress against stated policy objectives. They should not be confused with audits, which assess a program’s compliance with relevant financial regulations.

38. **The Annual Program of Evaluation²³ includes four evaluation methods.** Consistency and results evaluations analyze the design and overall performance of programs to improve their management and measure the achievement of results based on the indicators matrix. Design evaluations use fieldwork to determine the relevance and scope of results indicators. Specific performance assessments use the CONEVAL Performance Evaluation System to evaluate federal programs. Finally, impact assessments use experimental or quasi-experimental design to determine whether specific activities are effective and whether positive outcomes are attributable to a specific federal program.

39. **The ASF conducts four types of audits.** Financial audits determine whether the collection, acquisition, management, exercise and application of resources approved by Congress conform to relevant regulations. Investment audits assess whether investment quality standards—including timeliness, value for money, and other criteria—have been met. Performance audits determine the efficiency, effectiveness and economy with which program goals are achieved. And federal expenditures compliance audits review how resources are used to advance the objectives of federal programs in states and municipalities.

40. **Program evaluations of ASRD spending are inconsistently applied.** The agricultural sector requires specialized surveys that consider weather conditions, environmental factors or other issues that not generally part of program evaluations. Moreover, standard evaluation methodologies may not be fully appropriate due to the inclusion of specialized variables from these surveys. The available evaluations for subsidies programs for 2014²⁴ cover MXN 115.579 billion in spending, or 30.72 percent of the total ASRD budget. These include 39 programs, representing MXN 88.49 billion (76.5 percent) of ASRD subsidies.

41. **Of the 39 federal ASRD subsidy programs that have undergone some form of evaluation, 14 received financial audits from ASF, 25 were subject to design or monitoring evaluations and one program was externally evaluated.²⁵** Despite the importance of subsidy programs the majority have not received an impact evaluation, and there is therefore very little evidence as to whether they achieve their intended social objectives. 8 economic development programs representing 23.4 percent of subsidies (MXN 27.088 billion) have not been evaluated at all.²⁶

²² In coordination with SHCP and CONEVAL the Evaluation Unit defines and monitors the integration of SAP, which includes external assessments and follow-up mechanisms for implementing recommendations. See:

<http://www.funcionpublica.gob.mx/index.php/ua/ssfp/uegdg/pae.html>

²³ The SHCP and CONEVAL jointly define and implement this program.

²⁴ As above, this refers to programs with resources from PEF expenditure classification 4300, “Grants and Subsidies”. *Pensión para Adultos Mayores, Seguro Médico Siglo XXI, Seguro Popular* and PROSPERA are excluded because their budgets do not specify a rural component.

²⁵ *Programa Empleo Temporal* was subjected to both a financial audit and a design evaluation.

²⁶ These 8 programs are: (i) Actividades orientadas a ofrecer productos y servicios para fortalecer el sector y fomentar la inclusión Financiera, (ii) Actividades orientadas a otorgar apoyos para la Inclusión Financiera y el Fortalecimiento del Sector de Ahorro y Crédito Popular y Cooperativo, (iii) Programa de Innovación, Investigación, Desarrollo Tecnológico y Educación, (iv) Programa de Productividad y Competitividad Agroalimentaria, (v) Programa Integral de Desarrollo Rural, (vi) Programa para el Mejoramiento de la Producción y la Productividad Indígena, (vii) Programa de Apoyo a la Educación Indígena and (viii) Seguridad Social Cañeros.

42. **ASRD programs are only evaluated and monitored at the program level.** A CONEVAL inventory of ASRD-related programs reveals that many have not been evaluated, and those that have been have shown modest results (Table 9.7). Moreover, a complete assessment of PEC and ASRD expenditures has not been conducted. The beneficiaries of subsidy programs are not consolidated in a single database, not only preventing an analysis of their aggregate impact but also making it difficult to identify duplication, coverage gaps, double-dipping, leakages, and other inefficiencies. Moreover, no specific evaluation or audit frameworks have been developed to assess ASRD programs.

Table 9.7: PAE-CONEVAL Evaluation Plan for ASRD Programs

PAE 2015	Evaluation	Contribution			
		Income	Education	Environment	Employment
Programa de Fomento a la Agricultura	Design	*		**	
Programa de Fomento Ganadero	Design	*			
Programa de Fomento a la Productividad Pesquera y Acuicola	Design	*			
Programa de Fomento a la Comercialización y Desarrollo de Mercados	Design				
Programa de Concurrencia con las Entidades Federativas	Design				
Programa de Productividad y Competitividad Agroalimentaria	Design				
Programa Integral de Desarrollo Rural	Design			***	
Programa de Sanidad e Inocuidad Agroalimentaria	Design				
Programa de Innovación, Investigación, Desarrollo Tecnológico y Educación	Design				
Desarrollo y aplicación de programas educativos a nivel medio superior	Monitoring and Evaluation	*	*		
Desarrollo y aplicación de programas educativos a nivel superior	Monitoring and Evaluation	*			
Desarrollo y aplicación de programas educativos en materia agropecuaria	Monitoring and Evaluation				
Apoyo al cambio tecnológico en las actividades agropecuarias, rurales, acuícolas y pesqueras	Monitoring and Evaluation				
Generación de Proyectos de Investigación	Monitoring and Evaluation				
Inspección y Vigilancia Pesquera	Monitoring and Evaluation			**	
Programa de Apoyo para la Productividad de la Mujer Emprendedora	Performance Specific				**
Fondo para el Apoyo a Proyectos Productivos en Núcleos Agrarios (FAPPA)	Performance Specific				**
Sistema Nacional de Investigación Agrícola	Performance Specific				
Fomento de la Ganadería y Normalización de la Calidad de los Productos Pecuarios	Performance Specific				
Programa Nacional para el Control de la Abeja Africana	Performance Specific				
Vinculación Productiva	Performance Specific				**
Sistema Nacional de Información para el Desarrollo Sustentable (Coejercicio SNIDRUS)	Performance Specific		*		
Sistema Integral para el Desarrollo Sustentable de la Caña de Azúcar	Performance Specific				
Programa de Subsidio a la Prima del Seguro Agropecuario	Performance Specific				
Programa de Apoyo a los Fondos de Aseguramiento Agropecuario	Performance Specific				
Programa de Seguro para Contingencias Climatológicas	Performance Specific				
Instrumentación de Acciones para la mejorar las Sanidades a través de Inspecciones Fitozoosanitarias	Performance Specific			***	

Source: World Bank staff calculations

43. **A review of 5 recently evaluated programs, which together represent a third of all ASRD subsidies, reveals a number of common issues.** Targeting is a major cross-cutting issue. Some programs have ill-defined target groups, while others lack a clear strategy for meeting their coverage goals. As a result, there is often substantial heterogeneity among beneficiaries, leading to distributional equity concerns and programmatic leakages. Moreover, some programs rely on imprecise indicators that do not accurately

reflect progress toward their stated policy objectives, and others do not collect or report critical performance information.

Measures of Equity in the Allocation of ASRD Expenditures

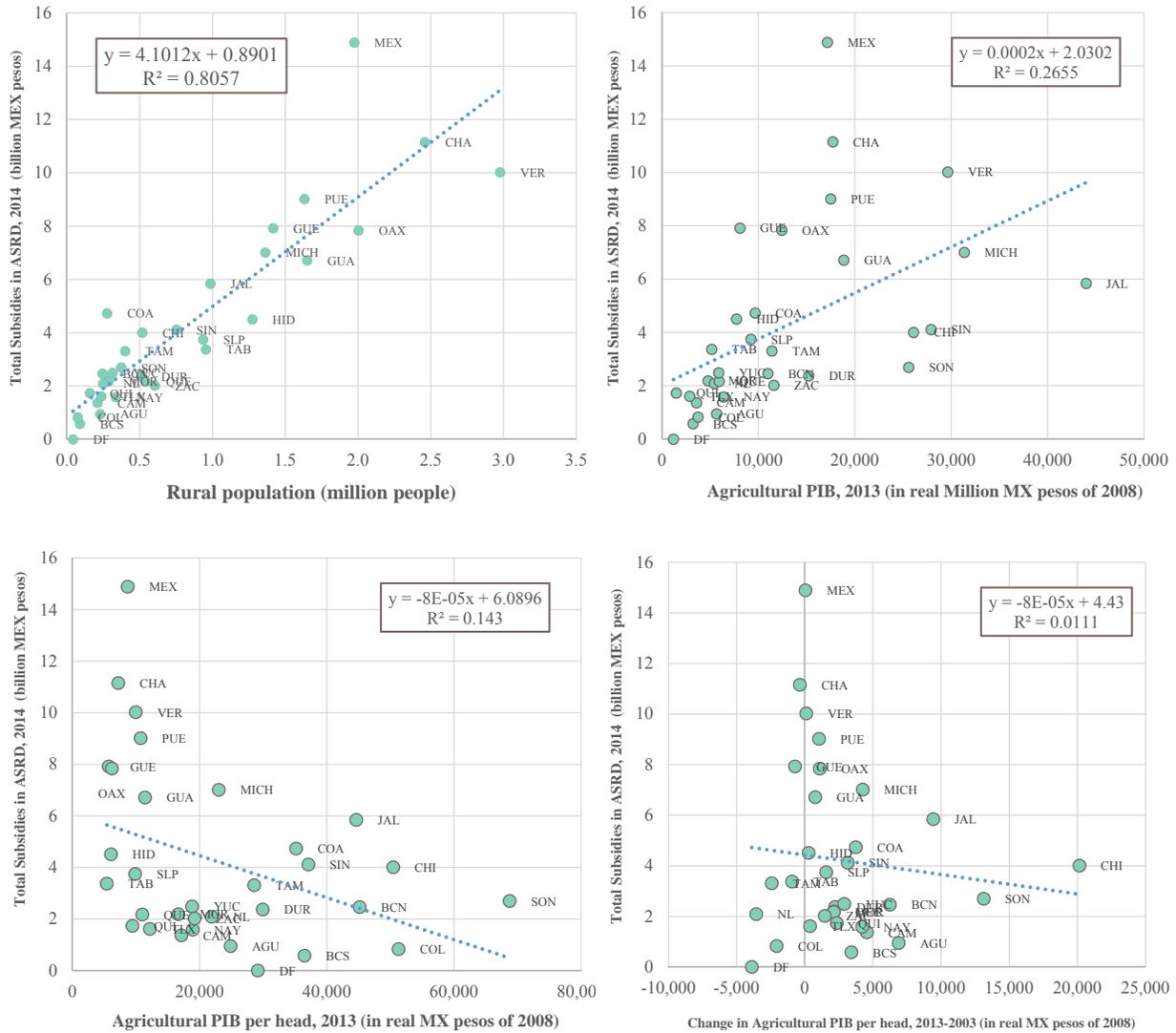
44. **Equity in the allocation of subsidies, as well as social spending in general, can be analyzed from two perspectives depending on the unit of analysis.** When the unit of analysis is a locality (i.e. a town, municipality or state), an analysis of the geographic distribution of subsidies is warranted. When the unit of observation is an individual (i.e. a person, family or firm), an analysis by income level or other beneficiary characteristic is appropriate. This section includes both perspectives. It begins with an analysis of agricultural spending by state (*entidades federativas*) designed to assess the geographic distribution of ASRD spending. This is particularly important in states with a large rural population, or in cases where the budget is allocated according to the number of potential rural beneficiaries.

45. **According to the most recent census, 23.18 percent of Mexico's population, or 26 million people, lived in rural areas in 2010.** Some states have an especially large rural population. For example, 52.7 percent of the population of Oaxaca lives in towns with fewer than 2,500 inhabitants, followed by Chiapas (51.3 percent), Guerrero (47.8 percent), Guanajuato (41.8 percent), and Tabasco (42.6 percent).²⁷ 11.42 percent of Mexico's rural population (or just under 3 million people) are located in the state of Veracruz, while Oaxaca is home to 7.69 percent (or about 2 million people). These states might therefore be expected to receive a larger share of the ASRD budget. However, ASRD budget allocations could also be linked to total agricultural output or marginal productivity.

46. **The states with the largest rural populations (Veracruz, Chiapas, Estado de México and Oaxaca) receive the most in ASRD subsidies.** Figure 9.10 includes four scatter plots showing the total volume of ASRD subsidies by state in 2014 according to four variables: (i) the size of the state's rural population in 2014; (ii) its total agricultural output in 2013; (iii) its average agricultural productivity in 2013, and (iv) changes in its agricultural productivity between 2003 and 2013. The size of the rural population accounted for 80 percent of the variation in subsidies by state. Meanwhile, agricultural output accounted for only 26 percent of the variation. Sonora, Chihuahua and Sinaloa have an agricultural output that is nearly 50 times larger than that of Estado de México, Chiapas and Puebla, but they receive between 50 and 80 percent less in subsidies. The slightly negative correlation between agricultural output and ASRD subsidies suggests that allocation is influenced at least in part by producers' need for productivity support. However, the correlation with average productivity (measured as agricultural output per rural inhabitant) was very weak, and there was no significant correlation with changes in productivity.

²⁷ SHCP's annual Public Accounts include both the approved and the executed budget. This analysis is based on the 75% of expenditures that can be disaggregated by state.

Figure 9.10: Allocation of 2014 ASRD Subsidies by Rural Population, Agricultural Output and Productivity by State



Source: World Bank staff calculations based data from *Cuenta Pública*, 2014 and INEGI

47. **The geographic analysis indicates that ASRD subsidies tend to be allocated to states with larger, somewhat less productive rural populations.** This is broadly consistent with their programmatic focus and policy goals. However, the lack of a meaningful link to productivity changes casts doubt on the effectiveness of these subsidies in terms of their impact on agricultural productivity. More granular data would enable a further exploration of the hypotheses illustrated by Figure 9.10.

48. **Analyzing agricultural spending by beneficiary characteristics can reveal how ASRD subsidies affect the income distribution.** This includes the amount of subsidies allocated to different income groups (the “absolute incidence”) and how much those subsidies represent as a share of each group’s income (the “relative incidence”).

49. Without a consolidated roster of beneficiaries, or administrative data documenting the distributive incidence of subsidies, this analysis relies on the 2014 National Household Income and Expenditure Survey (*Encuesta Nacional de Ingresos y Gastos de los Hogares*, ENIGH). The 2014 ENIGH identified 177,199

beneficiaries receiving subsidies from 12 different ASRD programs with a total budget of MXN 44.48 billion.²⁸

50. **In 2014 one-third of ASRD subsidy beneficiaries were in the lowest decile of the income distribution, and fewer than 5 percent were in the top decile.** More than three-quarters of beneficiaries earned less than the median income, indicating a generally pro-poor orientation. However, the absolute incidence of the distribution is not progressive. The ENIGH recorded a total of MXN 1.21 billion in subsidies. Respondents in the three bottom deciles reported receiving around MXN 370 million, or a little more than 30 percent of the total, while households in the top three deciles received 39 percent making the absolute incidence effectively neutral. The average transfer represented 50 percent of the average income of beneficiaries in the lowest decile and 21.1 percent of the income of those in the top decile, indicating a pro-poor relative incidence. However, this is not consistent throughout the income distribution. For instance, average transfers represent 115 percent of average incomes in the eighth decile, but only 20 percent of average incomes in the second decile.

51. **PROCAMPO (now called PROAGRO *Productivo*) is separately identified in the ENIGH.** The 2014 survey recorded 933,672 PROCAMPO beneficiaries.²⁹ Since 2014 PROCAMPO has been a component of *Programa de Fomento a la Agricultura*, but it does not follow its operating rules, and its budget is not included in the 2014 PEF. Data limitations notwithstanding, the total budget of the program is estimated at MXN 20.60 billion. It should be noted that PROCAMPO does not only benefit the rural population,³⁰ and according to the 2014 ENIGH 17.5 percent of its beneficiaries resided in urban areas.

52. **In 2014 almost one-third of PROCAMPO beneficiaries were in the lowest decile of the income distribution, and only 3.6 percent were in the top decile.** Nearly two-thirds of beneficiaries were in the bottom three deciles, which seems to indicate an even more pro-poor orientation than the 12 other ASRD subsidy programs analyzed above. According to the 2014 ENIGH the total value of PROCAMPO subsidies amounted to MXN 22.7 billion, and its absolute incidence is quite progressive. Households in the bottom three deciles reported receiving around MXN 1.4 billion, or a little more than 40 percent of the total, while households in the top third of the distribution represented less than 25 percent. In addition, average transfers represented 50 percent of the average income of beneficiaries in the lowest decile, and only 9.1 percent of the income of those in the top decile. This progressive relative incidence is evident through the whole income distribution, with higher income deciles reporting a lower share of transfers in total income.

53. **Previous evaluations showed PROCAMPO to be less progressive because subsidies were linked to the size of each beneficiary's cultivated land.**³¹ A 2013 analysis by CONEVAL³² stated that: "in recent years PROCAMPO has shown some elements that can contribute to more progressivity, particularly because of the targeting actions adopted since its change in rules of operation since 2009. However, the program shows a disconnection between its roster of beneficiaries and the average producer. Even with its new rules it is a program that proportionately benefits beneficiaries with higher incomes." Data from the 2014 ENIGH appear to indicate that this is not the case, and that PROCAMPO's new rules

²⁸ For a description of the subsidies surveyed in ENIGH 2014 and the methods adopted for out incidence estimates see Annex 1, Table A1.7 **Error! Reference source not found.**

²⁹ According to the SAGARPA Annual Report 1,857,292 farmers were beneficiaries of PROAGRO *Productivo*. See: www.sagarpa.gob.mx/agricultura/Programas/proagro/resultados_indicadores/Documents/2014/Reporte_Diciembre_2014.pdf

³⁰ CONEVAL defines a rural area as an area with 2,500 people or less.

³¹ Consultar Reglas de Operación del programa Fomento a la Agricultura en su componente PROAGRO Productivo en www.sagarpa.gob.mx/ProgramasSAGARPA/2014/Documents/ROP%202014_2/Programa%20de%20Fomento%20a%20la%20Agricultura_2.pdf

³² CONEVAL, 2013. Informe de la Evaluación Específica de Desempeño (2012-2013). [www.sagarpa.gob.mx/programas2/evaluacionesExternas/Documents/Evaluaciones%20Espec%20C3%ADficas%20de%20Desempe%C3%B1o%20\(EED\)%202012%20-%202013/S231%20Ejecutivo.pdf](http://www.sagarpa.gob.mx/programas2/evaluacionesExternas/Documents/Evaluaciones%20Espec%20C3%ADficas%20de%20Desempe%C3%B1o%20(EED)%202012%20-%202013/S231%20Ejecutivo.pdf)

have enhanced beneficiary targeting. However, another impact evaluation will be necessary to confirm PROCAMPO's improved progressivity.

54. **ASRD subsidies are one of the most complex elements of the Mexican federal budget.** The PEC and the Agricultural Sectoral Plan encompass approximately 200 programs. Even when overlapping programs are excluded nearly 120 remain, 48 of which are ASRD subsidies. Many of these subsidies are not exclusively allocated to rural areas (e.g. PROSPERA, the Temporary Employment Program (*Programa de Empleo Temporal*, PET) and *Seguro Popular*). Programs most closely focused on agricultural activities appear to be primarily allocated to poorer rural areas, and their relative and absolute incidence seems to be generally pro-poor. However, progressivity is not uniform across programs, and many appear to be effectively income-neutral. Moreover, there is little evidence of a statistical association between the allocation of subsidies and changes in agricultural output or productivity, which has remained stagnant over the last decade. Moreover, many of the largest programs have not undergone thorough impact evaluations, and their effectiveness has yet to be confirmed through empirical analysis.

THE FEDERAL BUDGET FOR SOCIAL HOUSING PROGRAMS

Foundations of Social Housing Policy

55. **Public sector intervention in the housing market is driven by three main factors.** First, access to potable water, sanitation, electricity and other basic public utilities are at least partial public goods, which the government has a responsibility to supply, and most (particularly sanitation and electricity) generate important positive externalities. Second, the public sector may intervene in an inefficient housing finance market to prevent anticompetitive market behavior or alleviate information asymmetries. Third, achieving the government's equity objectives may require interventions to facilitate access to housing among individuals and households that would otherwise have difficulty accessing the real estate market.³³

56. **Social housing policies are typically designed to reduce income and asset inequality by facilitating access to housing for individuals who would otherwise face binding constraints in the housing market.** The poor tend to have limited access to the housing market for three main reasons. First, they have modest and often variable incomes. In Latin America the poor are primarily employed in the informal sector, where productivity is low and there is little job stability. Second, the poor tend to have limited savings and assets, and any land they own may not be formally titled. Without adequate collateral the poor are frequently unable to successfully apply for long-term housing loans. Third, land regulations, building standards, high interest rates and other factors that increase the cost of financing housing may put it beyond the reach of the poor. The Mexican government has adopted a number of policies over the last several decades designed to address many of these issues.

Social Housing Policy in Mexico

57. **A large ongoing rural-urban migration process increased the share of the urban population in Mexico from 32 to 75 percent between 1960 and 2010.** This process has led to a dramatic increase in urban poverty, prompting the government to implement a series of urbanization policies and social housing initiatives. The government provides two types of housing assistance: self-help housing and social housing. The self-help housing system, in which families construct their own homes, remains an important and remarkable feature of Mexico's housing policy. One study found that 62.9 percent of new housing units were self-built in 2003, and another estimated that 74 percent were self-built in 2008.³⁴ The formal housing

³³Hoek-Smitt, 2011.

³⁴ For a long-term view of urbanization and social housing policy in Mexico, see Bredenoord and Cabrera Montiel, 2014. For an official perspective, see ASF, 2013.

finance market has also grown significantly. In 2014 18.5 percent of housing units were reportedly financed through a loan from a formal credit institution, up from the 13.7 percent in 2010. In 2014 social housing, in the form of subsidized, low-cost housing units, represented 12.5 percent of all housing units in Mexico.³⁵

58. **Mexico's housing policy involves a network of institutions and programs.** The public sector's main presence is in the financial market for mortgage loans. The National Housing Fund for Workers (*Instituto del Fondo Nacional de la Vivienda para los Trabajadores*, INFONAVIT) and the Housing Fund of the Institute of Social Security and Services for State Workers (*Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, FOVISSSTE) represented more than half of total annual housing finance in 2014. The Federal Mortgage Society (*Sociedad Hipotecaria Federal*, SHF) also provides funding via a set of institutions serving the housing market. Stable macroeconomic management, a favorable institutional setting and social housing subsidies provided through the National Housing Commission (*La Comisión Nacional de Vivienda*, CONAVI) and the National Trust Fund for Social Housing (*Fondo Nacional de Habitaciones Populares*, FONHAPO) have played a role in expanding the market for housing finance in Mexico. Lower interest rates, longer maturities and subsidies for down payments have all contributed to a remarkable increase in the volume of housing loans. Between 2003 and 2013 the number of annual loans increased from 381,000 to 541,000, peaking at 746,000 in 2008.

59. **Before proceeding, it is important to note three key characteristics of Mexico's housing policy.** First, the housing policy implemented through public financial institutions (i.e., INFONAVIT, FOVISSSTE and SHF) does not directly impact the annual budget of the central government. Second, substantially altering this policy would require reforms to the federal budget law and social security law, as well as to the payroll contributions to public financial institutions mandated by these laws. Third, subsidies for social housing have important poverty and equity implications, as they aim to facilitate access to housing among the poor and underserved. This final point is the focus of this analysis.

60. **The most important federal subsidy for social housing, both because of its large budget and its connection to major public housing financial institutions, is the Financing Scheme and Federal Housing Subsidy Program (*Programa de Esquema de Financiamiento y Subsidio Federal para Vivienda*), previously known as **This is Your Home (*Esta es Tu Casa*)**. This program provides subsidies for (i) home buying, (ii) improvements and expansions, (iii) self-built housing construction and (iv) the acquisition of land plots with service connections. The subsidy's size is linked to its function and varies according to the regional minimum wage.³⁶ It is 33-32 times the minimum wage for home buying, 22 times for improvements and expansions, 23 times for home construction, and 10 times for the acquisition of a plot. Beneficiaries must be contributors to public housing institutions (e.g., INFONAVIT, FOVISSSTE) who earn less than 2.6 times the minimum wage, or non-contributors who earn less than 5 times the minimum wage. In either case, beneficiaries must have been approved for a mortgage loan by a formal financial institution (public or private) with personal savings equivalent to at least five times the official minimum wage (or 5 percent of the value of the loan for any purpose other than home buying).**

61. **The Rural Housing (*Vivienda Rural*) and Decent Housing (*Vivienda Digna*) programs are more explicitly targeted to the poor.** Both programs are coordinated by FONHAPO, a trust under the jurisdiction of the Ministry of Agrarian, Land and Urban Development (*Secretaría de Desarrollo Agrario, Territorial y Urbano*, SEDATU). *Vivienda Rural* was created in 2010 and provides subsidies for home buying, improvements and expansions. Beneficiaries must live in rural areas, earn less than the *línea de bienestar mínimo* (a monetary threshold comparable to an extreme poverty line) and have homes with inferior building materials. *Vivienda Digna*, formerly known as Your House (*Tu Casa*), also provides subsidies for home buying, improvements and expansions, but beneficiaries can live in either urban or rural

³⁵ This refers to the share of households reporting to have received funds from INFONAVIT, FOVISSSTE or FONHAPO.

³⁶ The minimum wages in Mexico, as of April 2015, are MXN 70.1 (zone A) and MXN 68.28 (zone B) per day.

areas and must earn less than the *línea de bienestar* (a higher monetary threshold comparable to a moderate poverty line). Both provide similar subsidies of MXN 48,000-63,600 for home buying, MXN 10,000-15,000 for improvements, and MXN 15,000-20,000 for expansions. These subsidies require co-funding by a state or municipal program, and by the beneficiary, who can pay either in cash or in kind. Beneficiary contributions vary by program, but tend to be much lower for *Vivienda Rural* than *Vivienda Digna*.

62. **The High-Priority Zones Program (*Programa de Atención a Zonas Prioritarias, PDZP*) merges several previous programs from the Ministry of Social Development (*Secretaría de Desarrollo Social, SEDESOL*).³⁷ PDZP focuses on localities with a high marginality index.³⁸ It differs from the other three programs in that it does not fund home buying, but instead subsidizes certain housing supplies, including flooring, roofing and other construction materials, as well as sanitation and cooking facilities. Households with inadequate housing quality are eligible if they live in identified priority zones. The program also provides local funding for investments in public utilities, education, health and community services infrastructure supported by in-kind contributions from the beneficiary locality.**

63. **These four programs represent a small share of the total budget allocated to housing and community services.** In the last four budget proposals (2012-2015), subsidies for social housing oscillated between MXN 14.8 billion in 2013 and 21.2 billion in 2014. This represents 7-9 percent of the budget for housing and community services and an average of 0.5 percent of the total federal budget (Table 9.8). Most budgetary financing for investments in urban infrastructure (e.g., water systems, street paving and electricity) is allocated to subnational governments under *Ramo 23*. The small size of social housing subsidies may increase their marginal effectiveness, but it also reduces their total impact.

Table 9.8: Federal Budget for Housing and Community Services: Budget Proposal (MXN million)

	2012		2013		2014		2015	
Total budget	2,869,583		3,060,776		3,334,259		3,490,022	
Housing and community services	184,018	6.4%	208,988	6.8%	257,723	7.7%	226,510	6.5%
housing	10,815	0.4%	8,410	0.3%	14,829	0.4%	11,619	0.3%
subsidies	10,671		8,258		14,376		11,122	
CONAVI	8,480	0.3%	6,001	0.2%	12,031	0.4%	8,695	0.2%
FONHAPO	2,171	0.1%	2,258	0.1%	2,345	0.1%	2,427	0.1%
other expenditures					453		498	
community services	173,203	6.0%	200,579	6.6%	242,894	7.3%	214,890	6.2%
subsidies	35,574		51,723		79,961		50,860	
ramo 23	23,473	0.8%	32,601	1.1%	65,812	2.0%	30,110	0.9%
SEDESOL (PDZP)	6,315	0.2%	6,536	0.2%	6,851	0.2%	5,561	0.2%
other	5,787		12,587		7,298		15,190	
other expenditures	137,628		148,856		162,933		164,030	

Source: SHCP, Proyecto de Presupuesto de Egresos de la Federación, 2012, 2013, 2014 and 2015

64. **Between 2011 and 2014 the budget for social housing subsidies increased, and it was fully executed.** As shown in Table 9.9, three of the four programs in this study have had their budgets revised

³⁷ PDZP was created in year 2010 by merging *Microregiones* and *Programa de Apoyo a Zonas de Atención Prioritaria*

³⁸ The marginality index is a composite of 8 indicators from three categories (education, housing and incomes) that ranks localities into five levels of marginality: very high, high, medium, low and very low. For a description see http://www.conapo.gob.mx/es/CONAPO/Indice_de_Marginacion_por_Localidad_2010

upwards, with PDZP being the only exception. All programs fully disbursed their modified budgets. This increasing trend in subsidy budgets is primarily a result of the peak in the volume of subsidies for *Esta es Tu Casa* in 2014, and its subsequent reduction in 2015 (Table 9.8).

Table 9.9: Federal Subsidies for Social Housing: Budget Execution (MXN million)

	2011	2012	2013	2014
CONAVI				
Subsidio Federal para la vivienda (S177)				
aprobado	5,411	8,490	6,011	12,039
modificado	5,210	7,507	7,906	11,596
ejercido	5,210	96.3% 7,507	88.4% 7,906	131.5% 11,596
				96.3%
FONHAPO				
Vivienda Digna (S058)				
aprobado	1,663	1,512	1,709	2,056
modificado	2,019	1,907	1,708	2,056
ejercido	2,019	121.4% 1,907	126.1% 1,708	100.0% 2,056
				100.0%
Vivienda Rural (S117)				
aprobado	677	659	714	741
modificado	1,232	835	910	961
ejercido	1,232	181.8% 835	126.8% 910	127.5% 961
				129.7%
SEDESOL				
PDZP (S216)				
aprobado	6,194	6,411	6,631	6,884
modificado	5,877	6,204	6,088	5,927
ejercido	5,877	94.9% 6,189	96.5% 6,088	91.8% 5,927
				86.1%

Source: SHCP, Cuenta Pública, 2011, 2012, 2013 and 2014.

The Efficiency and Equity of Housing Subsidies in Mexico

65. This section analyzes the efficiency and equity of federal social housing subsidies using data from the National Information System on Housing (*Sistema Nacional de Información e Indicadores de Vivienda, SNIIV*) database, SHCP yearly reports on budget execution (*Gestión Pública*) and CONEVAL evaluations. SNIIV is a comprehensive database coordinated by CONAVI. It includes data from different sources encompassing multiple aspects of the housing market in Mexico. This database can be used to analyze how the budget for federal social housing subsidies has been allocated across different states over time and compare this allocation with changes in housing conditions among the poor. SHCP's annual reports document how the budget has been implemented, while CONEVAL evaluations reveal whether programs have made progress toward their intended objectives.

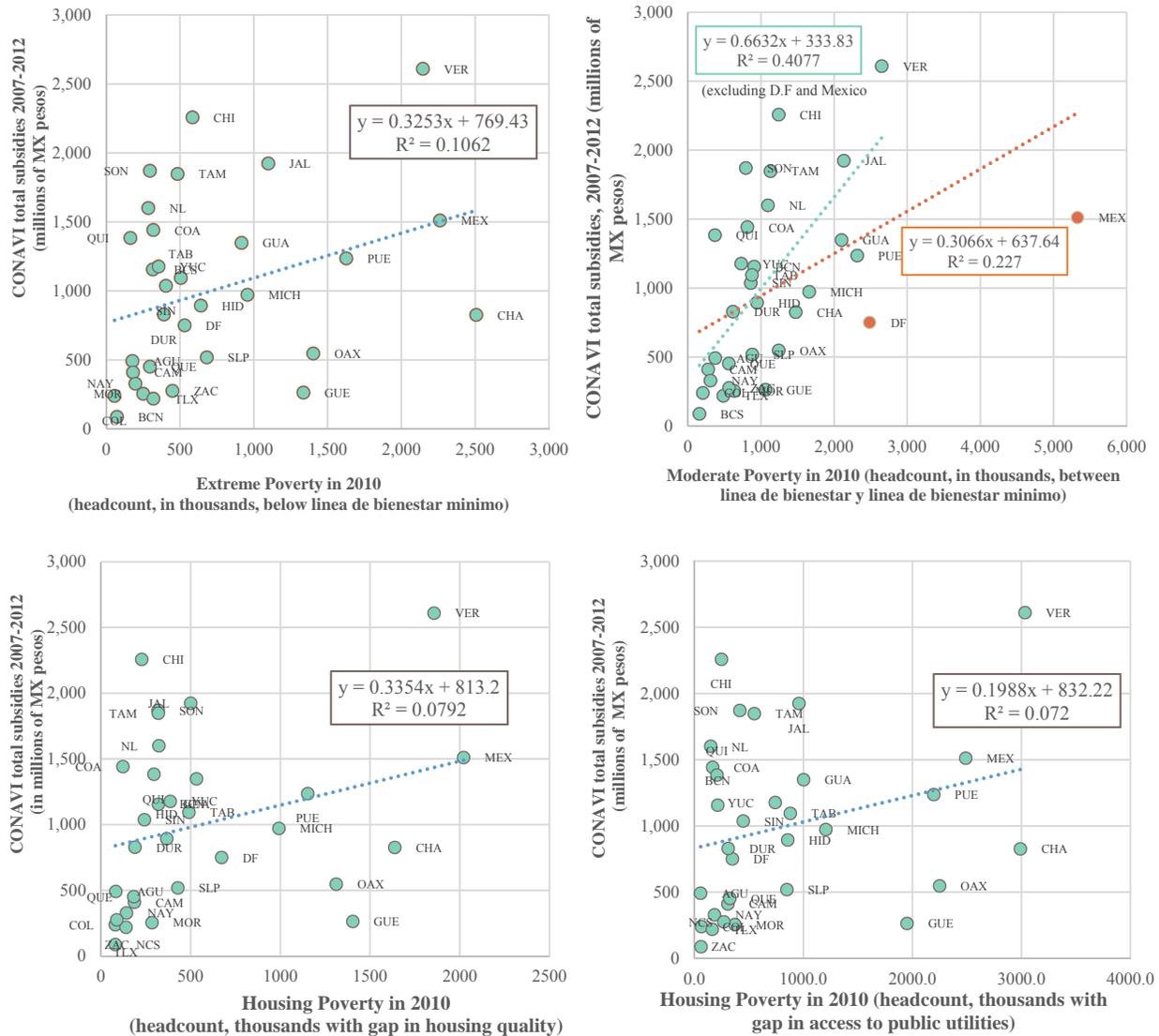
Evidence from SNIIV Data

66. The allocation of CONAVI subsidies during 2007-2012 is weakly correlated with poverty levels.³⁹ Figure 9.11 presents four scatterplots comparing the total volume of CONAVI subsidies by state during 2007-2012 to the number of poor people living in that state in 2010. Although there is a consistently positive correlation between the two variables, it is below 10 percent in three of the four cases. This suggests

³⁹ At least four definitions of poverty can be derived from the official multidimensional poverty numbers published by CONEVAL. The first refers to extreme monetary poverty, which is defined as living in a household with a monetary income level below the *línea de bienestar mínimo*. The second refers to moderate monetary poverty, which is defined as living in a household with a monetary income below the *línea de bienestar*. The third refers to housing poverty, which is defined as living in a dwelling of inadequate quality or an overcrowded dwelling. The fourth refers to service poverty, which is defined as living in a household with inadequate access to basic utilities. See CONEVAL, 2010 at http://www.coneval.gob.mx/rw/resource/coneval/med_pobreza/MPMMPshortversion100903.pdf

that at most 10 percent of the variation in the volume of subsidies allocated to a state can be explained by the number of poor people living in the state.

Figure 9.11: CONAVI Subsidies 2007-2012 and Different Definitions of Poverty in Mexico



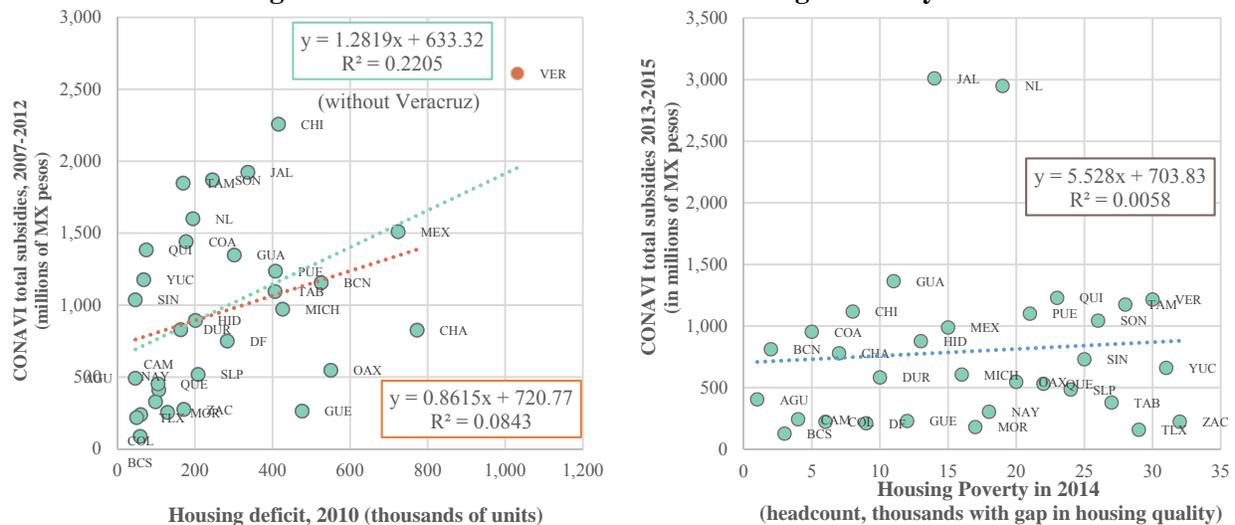
Source: World Bank staff calculations using data from CONEVAL and SNIIV

67. Interestingly, there is a somewhat stronger correlation with respect to moderate poverty than extreme poverty, housing poverty, or service poverty. Figure 9.11 shows that moderate poverty accounted for up to 23 percent of the variance in CONAVI subsidies. This correlation, which is still relatively modest, is weakened by a number of outliers. For example, Estado de México, one of the states with the largest number of people living in moderate poverty (nearly 5.5 million), has received almost the same amount of subsidies (around MXN 1.5 billion from 2007-2012) as Nuevo Leon, a state with just 1 million people in moderate poverty. Moreover, Veracruz has received more than triple the subsidies of the Federal District (MXN 2.6 and 0.7 billion, respectively, from 2007-2012), despite having a nearly identical number of moderate poor (2.7 and 2.5 million, respectively).

68. **The lower-than-expected subsidy levels in the Federal District and Estado de México are due to the impact of Mexico City, where the higher cost of land and population density make new construction more difficult and CONAVI subsidies less likely.** Excluding these two cases causes the correlation between the number of moderate poor and volume of subsidies to exceed 40 percent (Figure 9.11, top-right quadrant).

69. **CONAVI subsidies are also not strongly associated with the state-level housing deficit.** Using the SHF’s definition of housing deficit, there is a weak correlation between the volume of CONAVI subsidies from 2007-2012 and the housing deficit by state in 2010,⁴⁰ which explains less than 23 percent of the state-level variation in subsidies (Figure 9.12). However, this result is principally driven by the state of Veracruz, which appears to be an outlier. When Veracruz is excluded, the correlation between the two variables falls to less than 10 percent. For 2013-2015 the correlation with the housing deficit is even lower, and using 2012 data the correlation falls to less than 5 percent.⁴¹ 2014 housing quality data present similar results, and the state allocation of CONAVI subsidies again does not seem to be correlated to housing needs.

Figure 9.12: CONAVI Subsidies and Housing Deficit by State



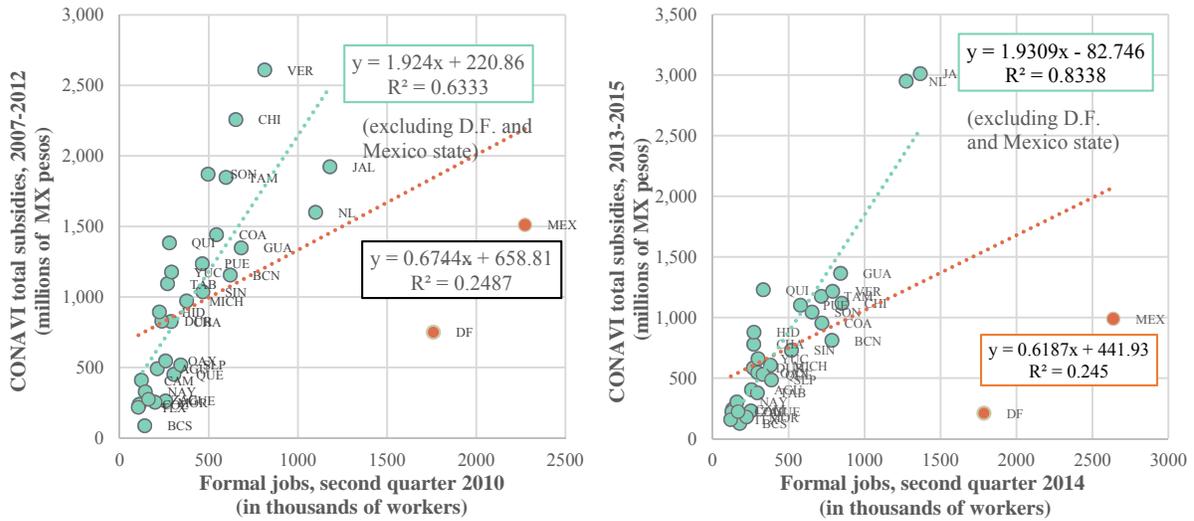
Source: World Bank staff calculations using data from CONEVAL and SNIIV

70. **CONAVI subsidies are, however, strongly correlated with formal employment.** This is a function of CONAVI’s rules of operation. CONAVI subsidies complement financing provided by either a public or private financial institution. Since these financial institutions primarily extend credit to formal workers, it is unsurprising that CONAVI subsidies would correlate with high rates of formal employment. The number of formal jobs in a state accounted for around 25 percent of the variation in CONAVI subsidies, both in 2007-2012 and 2013-2015 (Figure 9.13). However, excluding the outliers of the Federal District and Estado de México raises the correlation to 66 percent for 2007-2012 and 83 percent for 2013-2015.

⁴⁰ The definition of housing deficit produced by SHF (*rezago habitacional* as published at SNIIV website) refers to dwellings that have inadequate building materials (walls or roof of the dwelling are made of mud or daub and wattle; reed, bamboo or palm tree; or waste), or inferior building materials (walls or roof made of cardboard, metal or asbestos sheets;) or crowding (more than one household living in a dwelling). At the moment of writing this report, *rezago habitacional* indicators after 2012 are not yet available. This definition differs from the one proposed by INEGI’s *Comité Técnico Especializado de Vivienda*. In this case, *deficit habitacional* refers to housing units that have inadequate materials, lack of access to basic utilities or overcrowding (defined as more than 2.5 people per room). For 2010 the *rezago habitacional*, as defined by SHF, reached 9.1 million units, whereas the *deficit habitacional*, as reported by ASF (2014), reached 14.6 million units.

⁴¹ Figure with these data is not shown in this chapter, but it is available to interested readers upon request.

Figure 9.13: CONAVI Subsidies and Formal Employment by State



Source: World Bank staff calculations using data from CONEVAL and SNIIV

71. **CONAVI’s eligibility criteria leave informal workers, who are usually overrepresented in the lower ranks of the income distribution, with very limited access to social housing subsidies.** CONAVI subsidies are primarily allocated to those living in moderate poverty. From 2007-2012 66 percent of CONAVI subsidies (MXN 21 billion out of MXN 31.8 billion) went to people earning 2.6 times the minimum wage or less.⁴² Meanwhile, FONHAPO’s *Vivienda Digna* and *Vivienda Rural* and SEDESOL’s PDZP appear to focus more on the extreme poor.

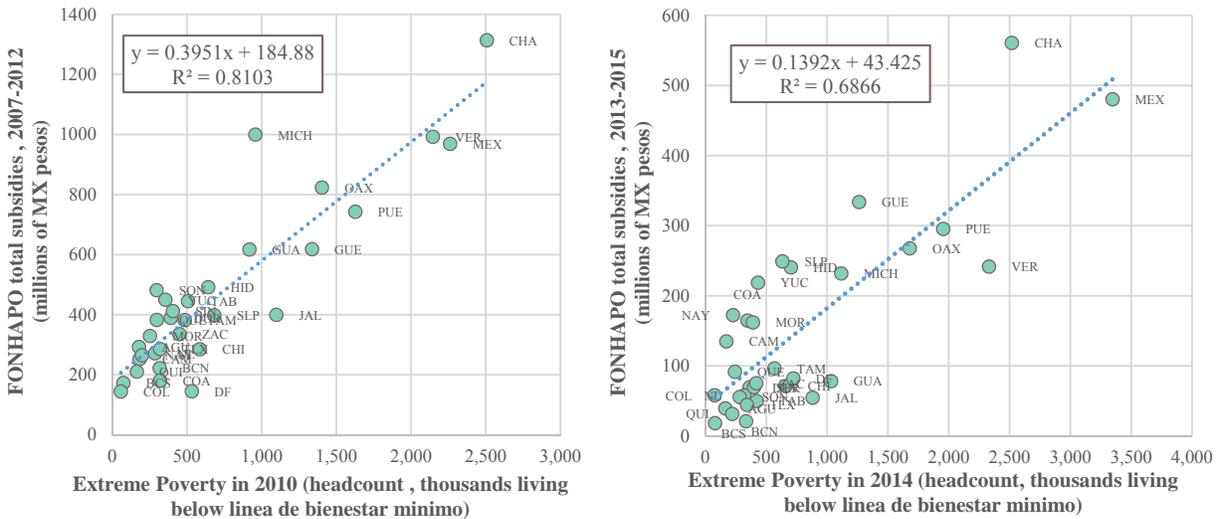
72. **FONHAPO’s subsidies are primarily allocated to states with a large population in extreme poverty.** The number of people living in extreme monetary poverty accounted for more than 80 percent of the state-level variation in total FONHAPO subsidies from 2007-2012.⁴³ A slightly less strong correlation is also observed for 2013-2015 (Figure 9.14). This distribution reflects the targeting priorities of *Vivienda Digna* and *Vivienda Rural*.⁴⁴

⁴² Given that the monetary poverty lines are MXN 1,286.79 and 907.22 per month in urban and rural areas, respectively (corresponding to the *línea de bienestar mínimo* as of April 2015) and the minimum wage is MXN 70.1 per day; then a family of five earning less than 2.6 times the minimum wage would earn approximately MXN 1,094 per family member per month (assuming 360 days of work).

⁴³ Data for these years also include the *Tu casa* program.

⁴⁴ Using population in poverty (i.e., those living below the *línea de bienestar*) the correlations are lower, but still sizeable: 56 and 46 percent for 2007-2012 and 2013-2015 periods, respectively.

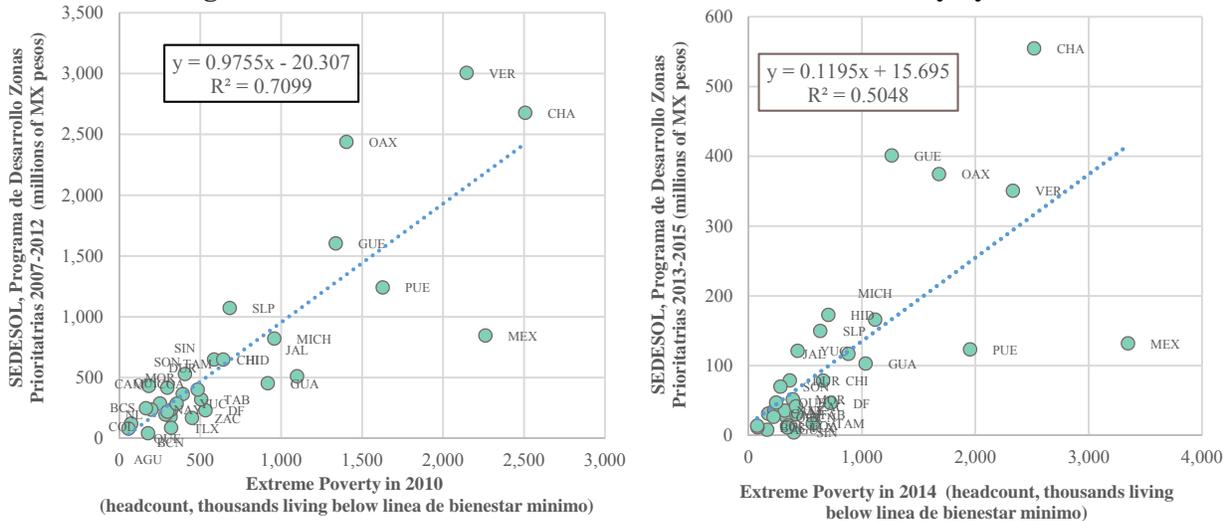
Figure 9.14: FONHAPO Subsidies and Extreme Poverty by State



Source: World Bank staff calculations using SNIIV

73. **The PDZP focuses on states with a larger population in extreme poverty.** Chiapas, Veracruz, Oaxaca and Guerrero, four of the states with the largest number of people in extreme poverty, receive nearly half of the total PDZP subsidies for home improvement. The population in extreme poverty accounted for 70 percent of the variation in PDZP subsidies from 2007-2012. This rate dropped to 50 percent in 2013-2015 (Figure 9.15) due to the influence of Puebla and Estado de México, which receive a comparatively small share of PDZP home improvement subsidies despite their large populations in extreme poverty. Moreover, home improvement subsidies have declined as a share of total PDZP subsidies since 2013.

Figure 9.15: SEDESOL PDZP Subsidies and Extreme Poverty by State



Source: World Bank staff calculations using SNIIV

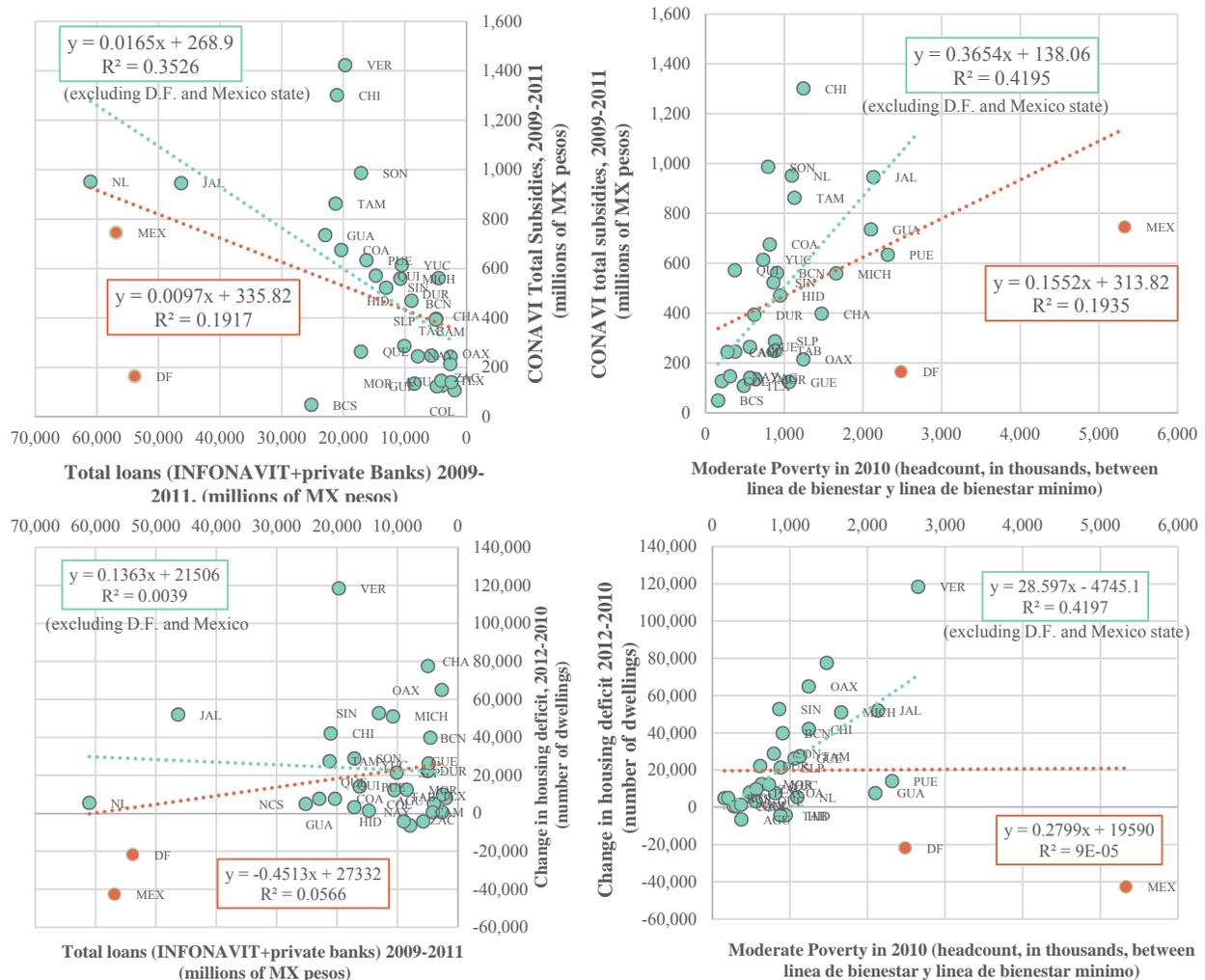
74. **Overall, Mexico’s social housing subsidies are primarily targeted to the poor.** CONAVI subsidies mostly benefit households in moderate poverty, while FONHAPO and SEDESOL subsidies focus on households in extreme poverty. While these programs are generally well targeted, coverage gaps may remain. The strong correlation between formal employment and CONAVI subsidies may diminish their pro-poor orientation, as informal workers tend to have lower incomes. The progressivity of the distribution

is also a concern: in 2014 only 6.2 percent of lower-income households reported receiving loans from INFONAVIT, FOVISSSTE or CONHAPO, while 25.2 percent of upper-income households did.⁴⁵

75. **CONAVI subsidies are weakly associated with the growth rate of state housing deficits, and their impact is only marginally pro-poor.** There is a positive but low correlation (roughly 20 percent) between the volume of housing loans and the volume of CONAVI subsidies for the 2009-2011 period. When the Federal District and Estado de México are excluded the correlation increases, albeit slightly (Figure 9.16). Housing loans are driven much more by economic growth than by CONAVI subsidies, so larger and richer states (i.e., Estado de México, Nuevo Leon, Jalisco and the Federal District) receive a greater volume of loans. With the exception of Jalisco, these states' housing deficits grew very slowly or even narrowed between 2010 and 2012. By contrast, poorer states such as Veracruz, Chiapas and Oaxaca experienced the fastest growing housing deficits. Excluding the Federal District and Estado de México the regression line between loans and housing deficit reduction is even flatter. Consequently, the changes observed in the housing deficit from 2010-2012 exhibit no correlation with the level of moderate poverty in 2010. Veracruz, a state with 2.6 million moderately poor inhabitants saw its housing deficit increase by 120,000 units, whereas the Federal District, with a moderately poor population of 2.4 million, saw its deficit decline by 20,000 units. Moreover, excluding the Federal District and Estado de México reduces the apparent pro-poor impact. Aguascalientes, a state with less than 400,000 moderately poor inhabitants in 2010, saw its housing deficit fall by 6,515 units, whereas Chiapas, with close to 1.5 million moderately poor inhabitants, saw its housing deficit grow by nearly 75,000 units.

⁴⁵ World Bank staff calculations using data from ENIGH 2014.

Figure 9.16: CONAVI Subsidies, Housing Loans, Change in Housing Deficit and Moderate Poverty by State

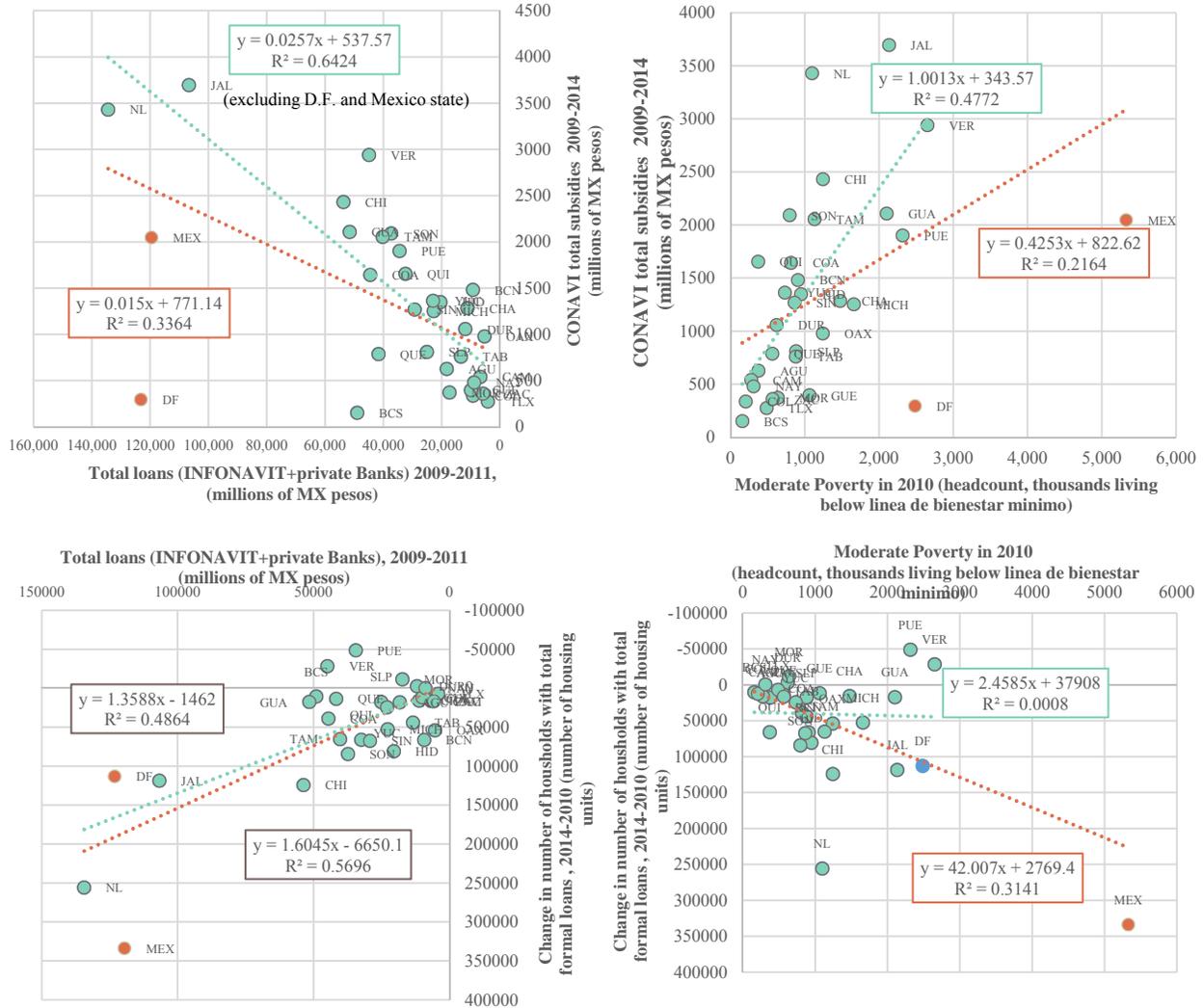


Source: World Bank calculations using data from CONEVAL and SNIIV

76. **The percentage change in the number of housing units financed by formal loans also indicates that CONAVI subsidies are well targeted, but only modestly pro-poor.** The housing deficit is not an ideal outcome indicator. Consistent data are available for only two years, 2010 and 2012, and the policy is focused more on expanding housing financing among the moderately poor (a short-term objective) rather than reducing the housing deficit (a long-term outcome). The relationship between the number of loans (the output variable) and changes in access to formal credit for housing (the outcome variable) is much higher, accounting for around 50 percent of the variance. This translates into a stronger correlation between changes in access to housing financing and state poverty levels (Figure 9.17). However, much of the observed pro-poor pattern is driven by the large allocation of loans to Estado de México. Excluding both Estado de México and the Federal District again results in a very low correlation between loans, changes in access to credit for housing and poverty levels (Figure 9.17, bottom quadrants). A robust local economy, high rates of formal employment, and a large concentration of moderate poverty in Estado de México make the allocation of CONAVI subsidies appear more pro-poor than would otherwise be the case. For example, Puebla and Jalisco both have around 2.3 million moderately poor inhabitants, but the former saw a decline

of around 50,000 in the number of households with formal credit, whereas the latter saw an increase of more than 100,000. Guerrero, Nuevo Leon, Guanajuato and Jalisco show similarly uneven trends.

Figure 9.17: CONAVI Subsidies, Housing Loans, Change in Housing Units with Formal Credits and Moderate Poverty by State

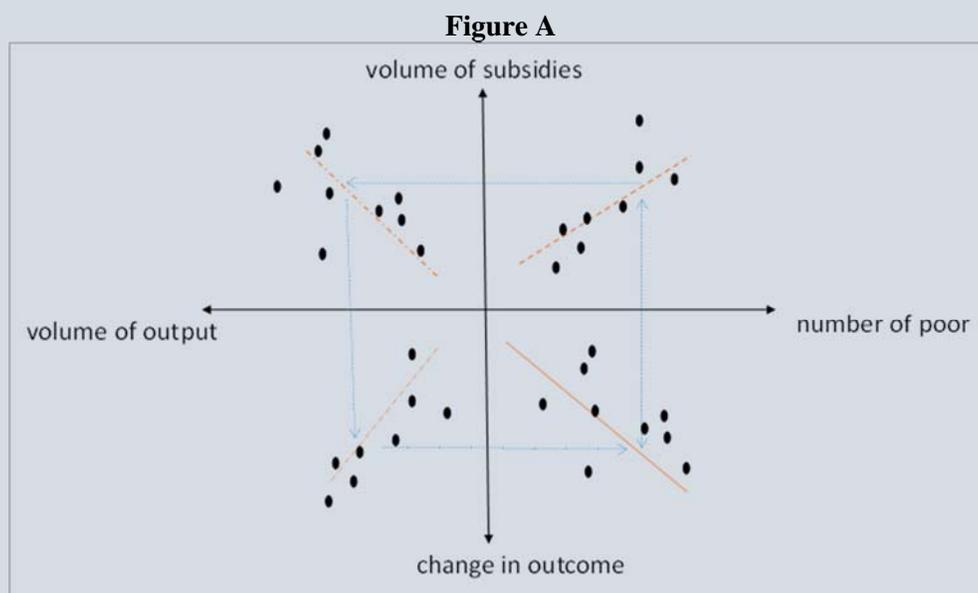


Source: World Bank staff calculations using data from ENIGH 2010-2014, CONEVAL and SNIIV

Box 9.1: Diagramming the Targeting, Efficiency, Efficacy and Pro-Poor Orientation of Housing Subsidies

Good targeting is a necessary, but not sufficient, condition for efficient, effective, pro-poor social programming. These features depend on multiple interconnected implementation measures, and shortcomings in any one area could undermine their impact. As a result, systematic design, performance and impact evaluations are required to thoroughly analyze these potential limitations.

A simple graph can help illustrate whether a social program has a pro-poor impact. The four quadrant diagram below represents a program's four key characteristics: targeting, efficiency, efficacy and pro-poor orientation. The top right quadrant depicts the number of poor (horizontal axis) and the amount of subsidies received (vertical axis) in various localities, revealing whether the program is well targeted. If more subsidies are directed to areas with a larger poor population, the trend line will be positive, and it can be inferred that the number of poor largely determines the variance in subsidies by locality. The top-left quadrant depicts the amount of output by locality (horizontal axis) and amount of subsidies received (vertical axis). Outputs are the goods or services that the subsidy enables beneficiaries to acquire, such as fuel, food or in this case housing loans. This quadrant shows the efficiency of the program in terms of the level of output per dollar spent on the subsidy. Localities above (or below) the trend line are more (or less) efficient than average in their use of the subsidy.



The bottom-left quadrant depicts the amount of output by locality (horizontal axis) and changes in the outcome variable (vertical axis, inverted scale). The outcome variable measures the ultimate objectives of the program, in this case more home ownership and less housing poverty. This quadrant shows the efficacy of the program in terms of the progress on outcomes generated by each unit of output. Localities above the trend line are more effective than average in generating the desired outcome. Finally, the bottom-right quadrant depicts changes in the outcome variable (vertical axis, inverted scale) and the number of poor (horizontal axis). This quadrant depicts whether changes in the outcome variable are pro-poor. A program is pro-poor if localities with a larger number of poor people experience a larger change in the outcome variable.

Connecting the dots of the first three quadrants yields a result in the fourth quadrant, as a program can fail to be pro-poor because it is not well targeted, not efficient or not effective. Thus the figure illustrates not only whether the program is achieving its policy goals, but also where potential problems may lie, both in terms of programmatic weaknesses and underperforming localities. While the diagram does not demonstrate causation, and formal impact evaluations are still necessary, it can serve as a useful policy tool by highlighting issues for closer examination.

In the following subsection this diagram is used to illustrate the allocation of federal housing subsidies under several major programs. It plots the 32 Mexican states according to the following indicators: (i) CONEVAL poverty data

as the poverty measure; (ii) the total amount of CONAVI, FONHAPO and SEDESOL subsidies as the measure of the volume of subsidies, (iii) housing loans from INFONAVIT, FOVISSSTE and the private sector as the output measure and (iv) changes in housing deficit or in housing poverty as the outcome measures.

77. **The very limited pro-poor impact of housing subsidies is results from two factors: low correlation between output and outcome indicators, and the influence of eligibility requirements on targeting.** Changes in housing deficits or in access to housing credits are only slightly associated with the volume of housing loans. In other words, housing finance only has a minor impact on changes in housing indicators. And the strong link between subsidies and formal employment inevitably reduces their pro-poor orientation. As a result, CONAVI subsidies, despite being targeted to the moderately poor, only mildly influence the housing deficit or access to housing credits, even among the moderately poor.

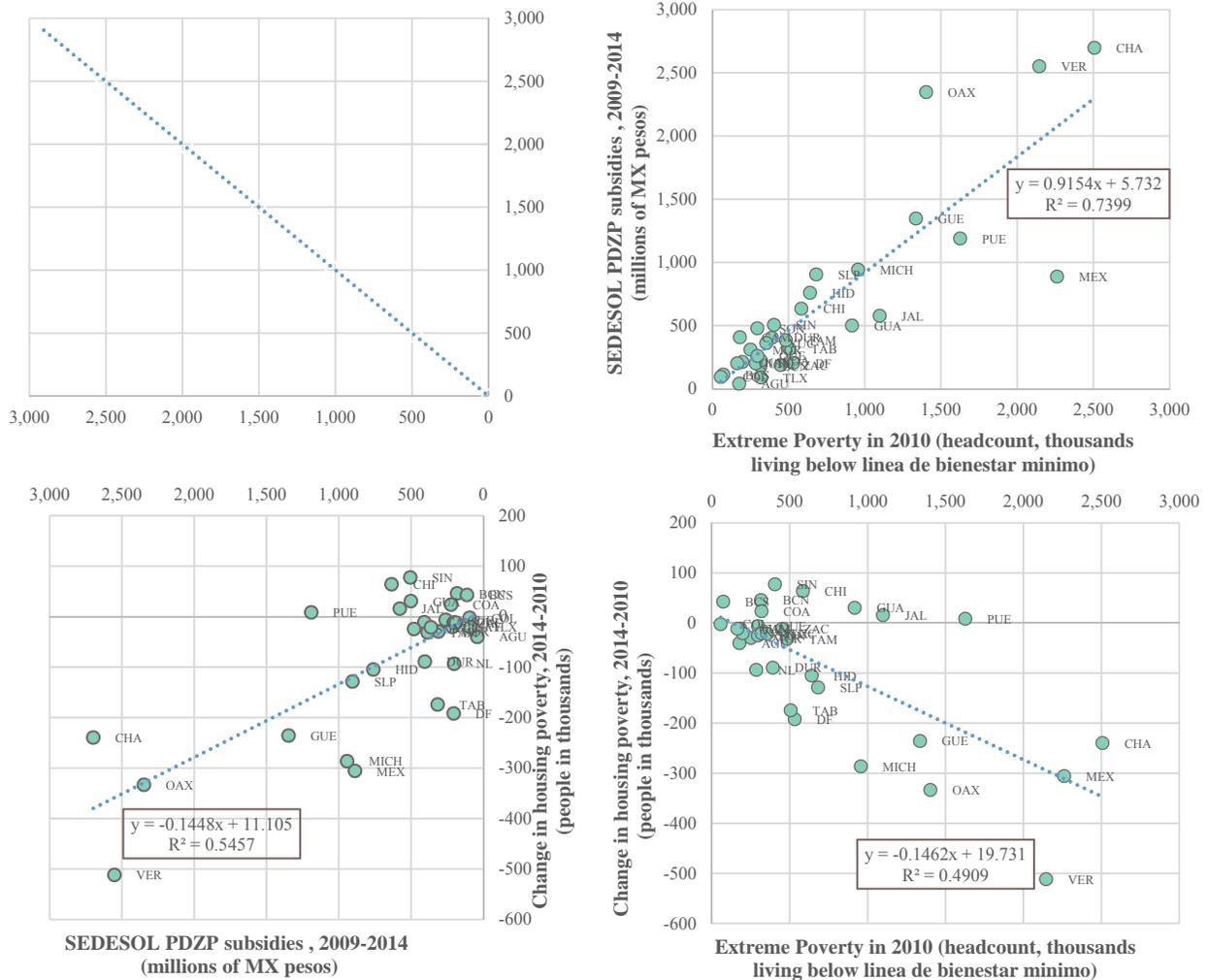
78. **FONHAPO programs exhibit a positive association between the allocation of subsidies, changes in housing poverty and the population in extreme poverty.** From 2009-2014 FONHAPO subsidies were predominately allocated to states with greater numbers of people living in extreme poverty (Figure 9.18).⁴⁶ From 2010-2014 these states also saw the largest reduction in housing poverty. Consequently, the allocation of FONHAPO subsidies appears to be effective in reducing housing poverty, and its impact appears to be concentrated in states with larger populations in extreme poverty.⁴⁷ While these correlations do not prove causation, they do indicate that FONHAPO subsidies are largely allocated to areas with more extremely poor households and where housing poverty has declined the most.

⁴⁶ This is based on one component of Mexico's official definition of multidimensional poverty and recent CONEVAL estimates.

⁴⁷ Given its large proportion of subsidies for home improvement and expansion and its targeting of populations in extreme poverty, changes in housing poverty are used to measure FONHAPO's effectiveness. Over 2007-2012 total FONHAPO subsidies reached MXN 14.7 billion: 8.2 billion for home improvement and expansion and 6.5 billion for new housing. The latter were mostly channeled via the *Tu Casa* program. Over 2013-2015 *Tu Casa* became *Vivienda Digna* and the proportion of subsidies allocated to home buying increased slightly: MXN 2.9 billion out of a total of MXN 4.8 billion. Thus the R2 of the regression line would decline from 0.5003 to 0.4774, and FONHAPO subsidies, whether or not they include funding for new housing, explain around half of the variation in housing poverty. These data are from *Sistema Nacional de Informacion e Indicadores de Vivienda* (SNIIV), July 2015 (<http://www.conavi.gob.mx:8080/>).

extreme poverty, like Estado de México, Puebla and Jalisco, have seen a significant reduction in service poverty, while others with equally large populations in extreme poverty, such as Michoacán, Chiapas, Veracruz, Oaxaca and Guerrero, have seen either a negligible decrease or even an increase in the number of people who lack access to basic utilities.⁵⁰

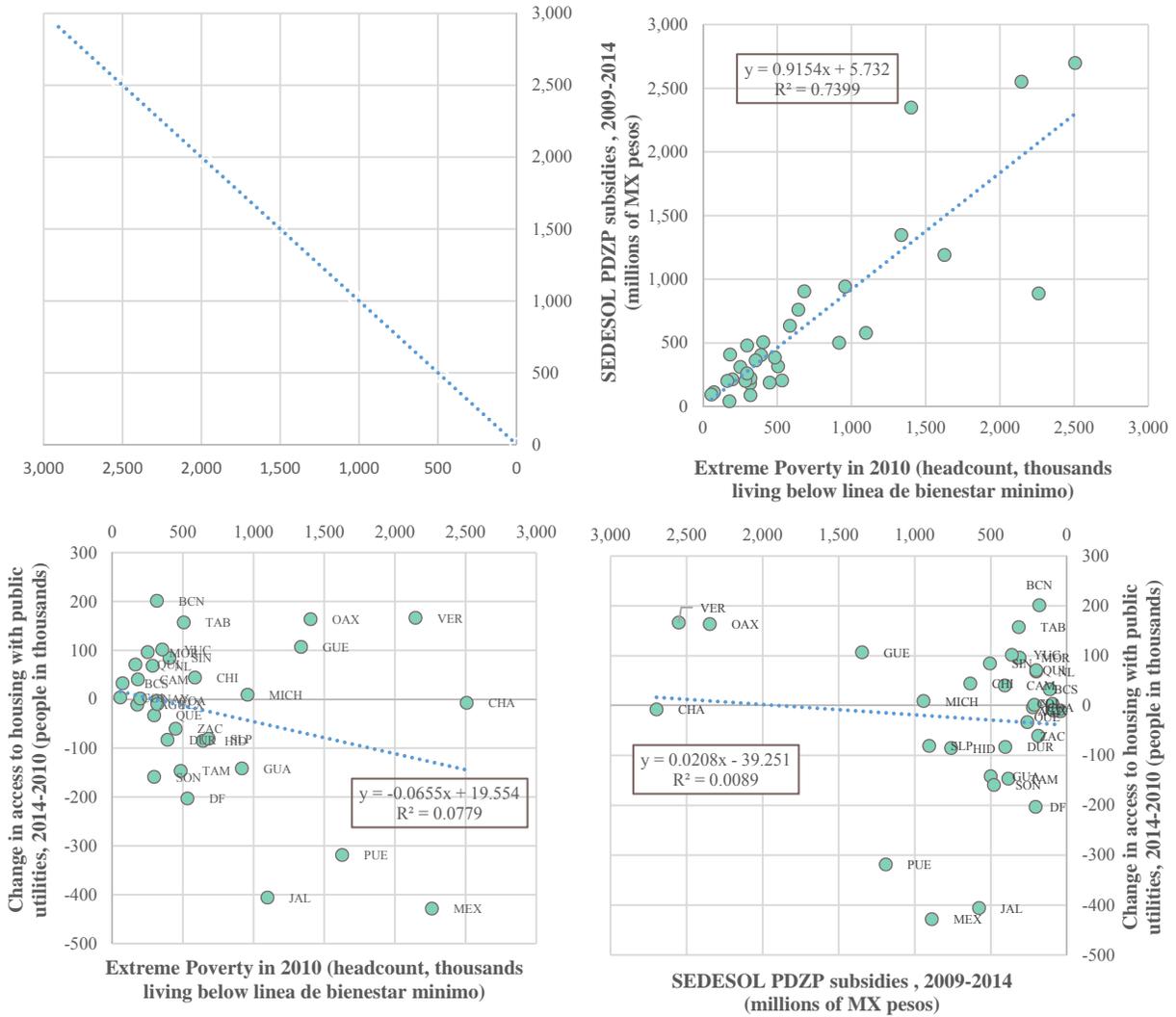
Figure 9.19: SEDESOL PDZP Subsidies, Changes in Housing Poverty and Extreme Poverty by State



Source: World Bank staff calculations using data from CONEVAL and SNIIV

⁵⁰ Admittedly, using PDZP's home improvement subsidies by state is not the right policy variable. We assume that the allocation of subsidies for public utilities access to localities follows a proportionately similar by-state allocation than home improvement subsidies.

Figure 9.20: SEDESOL PDZP Subsidies, Changes in Access to Housing with Public Utilities and Extreme Poverty by State



Source: World Bank staff calculations using data from CONEVAL and SNIIV

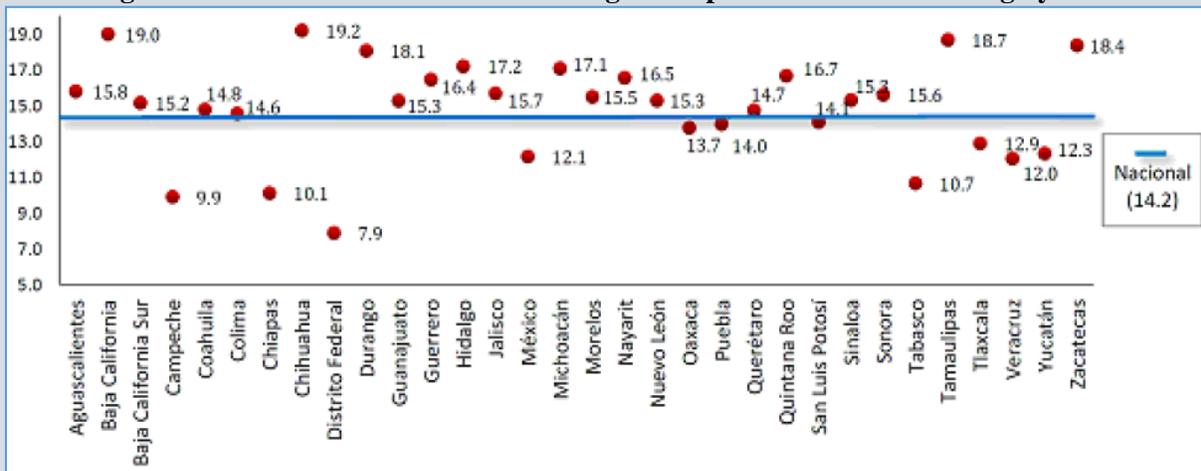
Box 9.2: The Problem of Abandoned Housing Units

Abandoned housing units are a puzzling issue within the framework of Mexico’s housing policies. An abandoned or uninhabited housing unit (*vivienda deshabitada*) is a housing unit that has been fully constructed at the time of the census, but that is being used for neither residential nor commercial purposes. The most recent census in 2010 indicated that there were just under 5 million abandoned housing units in Mexico, representing a remarkable 14.2 percent of all housing units in the country. The number of abandoned units increased from 3 million in the 2000 census and 4.3 million in the 2005 census, and its rise now seems to be tapering off. The forthcoming 2015 census data should shed further light on the evolution of this problem.

Some states have a share of empty units well above the national average. In Baja California, Chihuahua and Tamaulipas about 19 percent of the housing stock is uninhabited (Figure 9.21). This may be related to population movements stemming from insecurity, since these are northern states that have all seen a significant amount of drug-trafficking violence in recent years. However, Estado de México, Jalisco and Veracruz have largest number of uninhabited housing units, totaling 1.2 million in 2010.

Interestingly, Estado de México and Jalisco are among the states that have seen the most significant expansion in housing loans in recent years, while Veracruz has not seen a large expansion in housing loans, but is a major recipient of housing subsidies (Figure 9.16). This has led some analysts to conclude that the combination of federal subsidies and credit programs implemented over the past decade is linked to the problem of uninhabited units. Other studies, however, suggest that the issue stems from an institutional framework in which home financing is primarily managed at the federal level, while land regulation and urbanization policies are within the purview of local governments. According to this view, abandoned houses are concentrated in localities where public utilities, public schools, transportation infrastructure, job opportunities and other urban amenities are incomplete or insufficient, making housing units in these areas unattractive to families.

Figure 9.21: Share of Abandoned Housing as Proportion of Total Housing by State



Source: Programa Nacional de Vivienda 2014-2018. Diario Oficial de la Federación, 30 Abril, 2014.

The growing recognition of the abandoned housing problem has led to important policy changes in Mexico’s main social housing institutions. Subsidies and financing are now conditioned on the construction of housing in areas that guarantee basic public services and urban amenities, the so-called “polygons” (*polígonos*). Moreover, new mechanisms to facilitate coordination between these institutions and local governments in developing new building codes and land-use regulations and promoting urban redevelopment are also under consideration. Finally, subsidies and financing to promote rental housing have been identified as policy priorities. Given the extent of the abandoned housing problem, the effects of this new policy orientation will take years to materialize, and progress will need to be closely monitored and evaluated.

Evidence from Available Impact Evaluations

80. **There are two main sources of evidence on the impact of social housing subsidies in Mexico.** One is the annual *Cuenta Publica*, which records the actual executed budget and the goals achieved during the fiscal year. The other is CONEVAL evaluations, which analyze the performance of a program over several years.⁵¹ The four programs discussed in this analysis do not have recent impact evaluations to reference, due in part to data limitations or insufficient funding. However, other performance evaluations and beneficiary surveys are available, and this section summarizes the main findings from these various sources.

81. **The four social housing programs analyzed in this chapter show a high level of compliance with their annual expenditure targets and programmatic goals.** Because of their diverse areas of intervention each program employs multiple performance indicators to measure different outputs. Table 9.10 summarizes a few of the main performance indicators for these programs recorded in 2011 to 2014. In most instances 80 percent or more of the targets were achieved in each year, and in many cases, particularly for *Vivienda Rural*, the programs greatly surpassed their targets. However, there is evidence that in some cases these targets are too modest, and in others more output cannot reasonably be expected due to budget constraints.

82. **A recent performance evaluation of CONAVI's *Subsidio Federal a la Vivienda*, suggests that despite its growing budget and effective performance, the program is too small relative to its beneficiary group.** This evaluation indicated that the prospective target population (i.e., low-income households with deficient housing) was around 3 million, yet as of 2013 the program had reached only 209,374 beneficiaries.⁵² While this is very close to the beneficiary target included in the annual budget, it is very low relative to the overall demand for the program. The evaluation recommended that the program allocate a larger share of resources to home improvement and self-built housing rather than home buying, and that subsidies be allocated to housing units that comply with basic quality requirements under the new system of points and specific urban areas (*polygonos*). The prioritization of *polygonos* for the expansion of social housing is still in its early stages, and its potential impact on the issue of abandoned housing units, while likely significant, has yet to be confirmed by data. Meanwhile, CONAVI subsidies are still very much concentrated in new housing.⁵³ Moreover, due to the close correlation between CONAVI subsidies and formal employment the program is strongly influenced by developments in the labor market. Consequently, CONAVI's ability to expand the program will depend in part on the growth of formal employment.

83. **Evaluations of *Vivienda Digna* and *Vivienda Rural* recognize that these programs are almost unique in providing funding for home buying or improvements to households with little or no access to other forms of financing.** Both programs effectively target poor populations independently of their affiliation with public home financing institutions (Figure 9.14). However, the two programs are highly similar in terms of objectives, funding levels, and scope, and steps should be taken to avoid duplication. Once again the evaluation found that despite output indicators meeting or exceeding their predefined goals, the size of both programs is very small relative to their potential pool of beneficiaries, with each serving about 70,000 households per year from 2011-14 (Table 9.10), of an estimated total of 2.7 million.⁵⁴

⁵¹ For a list of the types of evaluations from CONEVAL see paragraph 38.

⁵² CONEVAL, 2014. Informe de la Evaluación Específica de desempeño 2012-2013. Programa de esquema de financiamiento y subsidio federal para la vivienda.

⁵³ For the period January-May of 2015, 78 percent of CONAVI's subsidies have been allocated to acquisition of new homes, compared to around 70 percent in years 2014 and 2013 (SNIIV web site, consulted in July 2015).

⁵⁴ CONEVAL, 2014 Informe de la Evaluación Específica de desempeño 2012-2013. Programa de Vivienda Rural and Programa de Ahorro y Subsidio para la vivienda tu Casa.

Table 9.10: Result Indicators from Federal Subsidies to Social Housing

		2011	2012	2013	2014
CONAVI					
Subsidio Federal para la vivienda (S177)	INDICADOR: Porcentaje de cobertura de las necesidades de adquisición de vivienda de la población de bajos ingresos	10.9	16.8	5.2	
aprobado		11.0	101%	13.3	79%
alcanzada				4.0	77%
	INDICADOR: Porcentaje de cobertura de las necesidades de adquisición de vivienda de la población de bajos ingresos				
aprobado					8.6
modificado					8.6
alcanzada					9.6
					112%
FONHAPO					
Vivienda Digna (S058)	INDICADOR: Hogares beneficiados con Vivienda	19,368	17,902	18,154	24,325
aprobado		22,405	116%	20,280	113%
alcanzada				19,555	108%
					18,289
					75%
	INDICADOR: Hogares beneficiados con Ampliación y Mejoramiento de Vivienda	68,451	41,563	27,727	18,920
aprobado		53,707	78%	54,101	130%
alcanzada				13,609	49%
					32,955
					174%
Vivienda Rural (S117)	INDICADOR: Hogares beneficiados con Vivienda	2,144	1,689	1,018	1,300
aprobado		3,940	1,689	1,018	1,300
modificado		2,253	105%	2,238	133%
alcanzada				5,087	500%
					2,161
					166%
	INDICADOR: Hogares beneficiados con Ampliación y Mejoramiento de Vivienda	36,504	37,203	37,482	37,000
aprobado		34,572	37,203	37,482	37,000
modificado		71,508	196%	43,665	117%
alcanzada				37,061	99%
					47,902
					129%
SEDESOL					
PDZP (S216)	INDICADOR: Número de pisos firmes en proyectos aprobados	500,000	600,000		
aprobado		500,000	600,000		
modificado		492,586	99%	564,503	94%
alcanzada					
	INDICADOR: Número de viviendas con servicio sanitario en proyectos aprobados por el			37,073	682,083
aprobado				40,000	682,083
modificado				39,125	106%
alcanzada					676,367
					99%
	INDICADOR: Número de viviendas con servicio de agua en proyectos aprobados por el			48,333	1,666,540
aprobado				48,333	1,666,540
modificado				59,810	124%
alcanzada					1,649,700
					99%

Source: Secretaría de Hacienda y Crédito Público, Cuenta Pública, 2011, 2012, 2013 and 2014.

84. **A performance evaluation of PDZP highlights the program's high coverage rates and narrow focus.** The PDZP has reached more than 30,000 localities with high and very high rates of marginalization, reaching more than 100 percent of its coverage goal. However, as in the case of the previous programs its total potential target group could encompass more than 120,000 localities.⁵⁵ The evaluation confirms a connection between the program's operations and the reduction in housing poverty observed from 2010-

⁵⁵ CONEVAL, 2014.

2012, which is consistent with this section's findings of a high correlation between the allocation of PDZP subsidies and declines in housing poverty from 2010-2014 (Figure 9.19).

85. **Subsidies for social housing appear to be well targeted and effective in achieving their output indicators.** This is true for those aimed at moderately poor households, as in the case of CONAVI's *Subsidio Federal a la Vivienda*, or extremely poor households, as in the case of *Vivienda Digna*, *Vivienda Rural* and *PDZP*. However, the modest budgets, relatively small size, and limited national coverage of these programs constrain their potential impact in terms of increasing access to home financing and reducing the housing deficit at the national level.

FEDERAL SUPPORT FOR SMALL-SCALE ENTREPRENEURSHIP

The Objectives of Public Support for Small and Medium Enterprises

86. **Labor markets in developing countries and emerging economies are often characterized by a large share of self-employed workers.**⁵⁶ Self-employed workers can be classified into three categories: (i) the *subsistence* self-employed who are self-employed out of necessity and lack the skills to become entrepreneurs, (ii) the *vocational* self-employed, who are entrepreneurs that lack the ability to expand their businesses, and (iii) the *transformational* self-employed, who have entrepreneurial skills and the potential to grow successful business but face external constraints. Public policy may be able to play a positive role in each of these cases. Social transfers and skills-development programs could enable the subsistence and vocational self-employed (which will be treated as a single group for much of the chapter) to raise their living standards and develop the capacity to improve and expand their businesses. Public policy can also play a role in identifying and addressing market failures, such as credit constraints, deficiencies in physical or institutional infrastructure, and regulatory barriers to market participation, which prevent workers in transformational self-employment from achieving their goals.⁵⁷

87. **Numerous developing world countries have designed and implemented programs to promote small-scale entrepreneurship by supporting self-employed workers and small and medium enterprises.** Some of these programs have a largely social orientation—that is, they tend to target the subsistence and vocational self-employed and focus on their basic welfare—while others concentrate on productivity gains and entrepreneurship. Most of these programs provide one or more of the following: (i) training in business skills, (ii) financing or assistance in accessing financing, (iii) networking services, and (iv) business advisory and mentoring services. The Mexican government provides a combination of services through a set of programs and institutions dedicated to the support and development of small-scale entrepreneurship. Some of these have a more social orientation, such as the National Institute of Economic Solidarity (*Instituto Nacional de la Economía Social*, INAES), while others are more focused on entrepreneurship, such as the National Institute of Entrepreneurship (*Instituto Nacional del Emprendedor*, INADEM).⁵⁸

Small and Medium Enterprise Support in Mexico

88. **SMEs play a major role in the Mexican private sector.** Firms with fewer than 250 workers represent 99.8 percent of all businesses and account for 72.3 percent of employment.⁵⁹ Mexico also has one of the highest business start-up rates in the OECD, and the SME sector continues to expand. Mexico's high

⁵⁶ For a discussion of self-employment and entrepreneurship in the developing world, see: World Development Report, 2013.

⁵⁷ For a recent review of small-scale entrepreneurship policies see Yo, Robalino and Watson, 2014.

⁵⁸ This analysis focuses on INADEM and INAES programs.

⁵⁹ OECD, 2013.

rate of labor informality correlates with firm size, and self-employed entrepreneurs and firms with fewer than 10 workers represent 40 percent of total employment. This is higher than the OECD average.

89. **The major role of SMEs in the Mexican private sector contrasts with their relatively small share of total output, low productivity growth and short life cycle in the market.** The productivity of SMEs is far lower than that of large firms. SME performance is constrained several factors, including lack of financing, limited access to human capital, disincentives for innovation, poor management and restrictions on market participation. As a consequence, SMEs are not only less productive, but also more likely to exit the market than large firms. Mexico's SME policies are designed to alleviate obstacles to accessing skills and financing, as well as other barriers to market entry, competitiveness and growth.

90. **Since the 1990s the Mexican government has actively supported SMEs.** In 2001 the government created the Undersecretary for Small and Medium Enterprises (*Subsecretaría para la Pequeña y Mediana Empresa*, SPyME) within the Ministry of Economy (*Secretaría de Economía*, SE) to develop and apply a policy framework for SME support. SPyME created 13 programs, which are funded and managed through the SME fund (*Fondo PyME*). During 2007-12 SPyME improved its policy framework, extending its services to entrepreneurs and microenterprises and making job creation one of the most important measures for evaluating SME policy. Moreover, SPyME was reorganized, consolidating its previous programs into five core groups, each focused on a different stage in a firm's life cycle: entrepreneurs; microenterprises; small and medium enterprises; young rapidly growing firms; and large companies with many SMEs in their supply chains. The current administration has further modified this policy framework, as described below.⁶⁰

91. **Mexico devotes substantial resources to SME support.** The federal budget allocates around MXN 20.3 billion to programs designed to boost the development of SMEs, which is equivalent to 0.57 percent of the 2015 federal budget. This share has remained broadly unchanged for the last 4 years (Table 9.11). This is equivalent to almost half of the total budget for Mexico's two largest social programs and similar to the budget of social housing subsidies.⁶¹

⁶⁰ For the evolution of SME public support see OECD, 2007. See also López-Acevedo and Tan, 2011.

⁶¹ OECD, 2013.

Table 9.11: Federal Budget to SMEs: Budget Proposal (MXN million)

	2012		2013		2014		2015	
	Million of MXP	% of total budget	Million of MXP	% of total budget	Million of MXP	% of total budget	Million of MXP	% of total budget
Total National Budget	2,869,583		3,060,776		3,334,259		3,669,816	
Total National budget in programs related to subsidies to SME's programs	16,017	0.56	17,251	0.56	20,701	0.62	20,987	0.57
subsidies	13,149	0.46	14,249	0.47	15,613	0.47	17,764	0.48
other expenditures	2,869	0.10	3,002	0.10	5,088	0.15	3,223	0.09
Secretary of Social Development								
Total budget	84,859	2.96	95,251	3.11	111,211	3.34	114,504	3.12
Subsidies to SME	502	0.02	565	0.02	642	0.02	664	0.02
Other subsidies	79,030	2.75	89,262	2.92	104,065	3.12	107,368	2.93
other expenditures	5,327	0.19	5,424	0.18	6,504	0.20	6,472	0.18
POP (S054)	400	0.01	414	0.01	430	0.01	445	0.01
subsidies	379	0.01	394	0.01	421	0.01	436	0.01
other expenditures	21	0.00	21	0.00	9	0.00	9	0.00
FONART (S057)	168	0.01	151	0.00	212	0.01	219	0.01
subsidies	123	0.00	125	0.00	118	0.00	126	0.00
transfers to trusts		0.00		0.00	0	0.00		0.00
other expenditures	45	0.00	26	0.00	94	0.00	94	0.00
Secretary of Agricultural, Urban and Territorial Development b								
Total budget	5,707	0.20	5,867	0.19	26,591	0.80	b	b
Subsidies to SME	2,221	0.08	2,546	0.08	2,042	0.06	2,192	0.06
Other subsidies	424	0.01	424	0.01	20,862	0.63		
other expenditures	3,062	0.11	2,897	0.09	3,687	0.11	b	b
PROMETE (S088)	1,000	0.03	1,100	0.04	1,142	0.03	1,200	0.03
subsidies	1,000	0.03	1,100	0.04	1,142	0.03	1,200	0.03
other	0	0.00	0	0.00		0.00	0	0.00
FAPPA (S089)	773	0.03	947	0.03	700	0.02	760	0.02
subsidies	773	0.03	947	0.03	700	0.02	760	0.02
other	0	0.00	0	0.00		0.00		0.00
Programa de Apoyo a Jovenes Emprendedores Agrarios (S203)	448	0.02	498	0.02	200	0.01	232	0.01
subsidies	448	0.02	498	0.02	200	0.01	232	0.01
other expenditures	0	0.00	0	0.00	0	0.00	0	0.00
CONACyT								
Subsidies to SME (Program of technology innovation for firms of high value added- U003)	2,000	0.07	3,000	0.10	4,000	0.12	4,640	0.13
Other subsidies	9,614	0.34	10,649	0.35	13,337	0.40	12,437	0.34
other expenditures	10,258	0.36	11,598	0.38	13,749	0.41	16,629	0.45

Source: World Bank staff calculations based on chapter III of planed budget (SCHP 2012-2015).

Note: All the monetary values are in current prices, while percentage values refer to the total planned budget.

a) The Entrepreneurship Fund was created in 2013 and it was absorbed later-2014 by FNE, which can explain part of the increase between 2013-2014 for the FNE.

b) The Agricultural Reform was re-structured and renamed as Secretary of Agricultural, Urban and Territorial development in 2014, which explain the increase in the total budget in charge of this Secretary. During 2015 the administration of PROMETE and FAPPA was reallocate it to Secretary of agriculture, livestock, rural development and food security. The latter change makes non comparable the stats about total budget.

92. **Public institutions dedicated to economic affairs implement the majority of the budget for SME programs; but a significant share is spread over other sectors.** MXN 13.9 billion, or 68 percent of the SME budget, is managed by economic institutions. However, at least MXN 6.4 billion is managed by agencies in other sectors such as SEDESOL, SEDATU, and the National Council for Science and Technology (*Comision Nacional de Investigacion Cientifica y Tecnologica*, CONACyT). However, in each of these the SME budget represents a very small share of the total budget (Figure 9.22). This indicates that the bulk of SME support is focused on economic objectives rather than social protection. Although the budget for SME programs is not too dispersed, and there seems to be an implicit divide between programs that support workers in *subsistence* and *transformational* self-employment, coordination and dialogue remain crucial to avoid duplication and ensure the efficient use of resources.

Figure 9.22: SME Support Budget by Function

Public Education	Social Development	Agriculture, livestock, rural development, fishing and alimentation	Agricultural Development	National Science and Technology Council	
	Health	Salary and economic provisions	Economic Sector		
			Treasury		

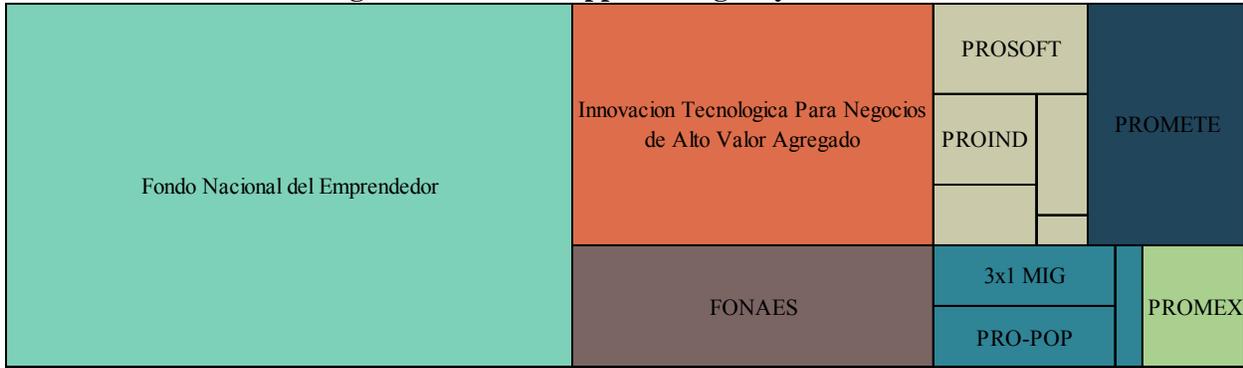
Source: Author's calculations based on SHCP's Federal Planned Budget of Expenses 2013-2014

93. **A simple institutional system is in place for managing the government's portfolio of SME programs.** INADEM⁶² and INAES, which are independent of the SE, were reorganized in 2013 to manage most of the SME support budget.⁶³ INADEM manages 45 percent of the total budget (MXN 9.5 billion) and INAES manages 11 percent (MXN 2.3 billion). The remaining SME programs managed by other institutions (Figure 9.23), which represent MXN 2.05 billion, or 11.9 percent of the total SME budget, are operated by different SE sub-secretariats and PRO-MEXICO, a public trust under the jurisdiction of the SE responsible for promoting exports and attracting foreign direct investment.

⁶² This institution inherited the roles of the previous SPyME, and it began to introduce some modifications to the policy portfolio that SPyME had defined. Moreover, INADEM is independent from the SE, unlike SPyME, and it is funded through the National Entrepreneurship Fund, previously known as *Fondo PyME*.

⁶³ This institution inherited the roles of the General Coordination of the National Program to Support Solidarity Enterprises, and it is funded by FONAES.

Figure 9.23: SME Support Budget by Institution



Source: Author's calculations based on the Federal Planned Budget of Expenses 2013-2014

Note: Green represents economic institutions, while red represents non-economic institutions

94. **Most of the budget for SME programs is allocated to subsidies.** Similar to previous years the 2015 budget allocates MXN 17.8 billion to SME subsidies, just over 80 percent of the total 2015 SME budget (Table 9.11). Of this amount, the National Entrepreneurship Fund (*Fondo Nacional del Emprendedor*, FNE) was allocated MXN 5.7 billion, the National Fund for Solidarity Enterprises (*Fondo Nacional de la Economía Solidaria*, FONAES) received MXN 2.4 billion, CONACyT's Technological Innovation (*Innovación Tecnológica*) program received MXN 4.6 billion, and the Program for Productivity of Women Entrepreneurs (*Programa para la Productividad de la Mujer Emprendedora*, PROMETE) received MXN 1.2 billion. Ten additional subsidy programs, most with annual budgets of around MXN 200 million, focus on specific groups, including artisans (FONART), young entrepreneurs, agricultural entrepreneurs (FAPPA and *Opciones Productivas*), rural women (FOMMUR), high-tech firms (PROIAT), microenterprises (PRONAFIM), software firms (PROSOFT) and manufacturing firms (PROIND).

95. **Between 2012 and 2014 the SME budget increased, but focused on a narrower range of programs.** Table 9.12 shows that the rise in the overall budget between 2012 and 2014 was almost exclusively driven by two programs: (i) FNE, which saw its budget grow from MXN 6.9 to 10.2 billion, and (ii) CONACyT's *Innovación Tecnológica*, the budget for which doubled from MXN 2 to 4 million. Other programs either experienced sharp budget reductions (PROLOGYCA, PROIND, PROMETE and FAPPA saw more than a 90 percent decline), or received the same allocation (FONAES, PROSOFT and *Opciones Productivas*). This pattern reflects the consolidation of programs: in 2012 the three largest programs represented 69 percent of the national budget for SME support, while in 2014 the same three represented 89 percent.

Table 9.12: Federal Subsidies to SMEs: Budget Execution (MXN million)

Institution/ Program	Stage of measure	2012		2013		2014	
		Million of MXP	Percentage of execution	Million of MXP	Percentage of execution	Million of MXP	Percentage of execution
Total budget		2,869,583		3,060,776		3,334,259	
Total budget of programs related to Subsidies to SME	App.	16,018		17,251		20,701	
	Mod.	16,254		16,997		19,335	
	Exe.	16,237	101	16,901	97.97	19,331	93
Economy sector -Secretary of economy + INADEM +INAES + PRO-MEXICO							
PROLOGYCA (S214)	App.	378		162		204	
	Mod.	349		160		119	
	Exe.	349	92.33	160	98.76	119	58.59
FNE (S020)	App.	7,048		7,291		9,377	
	Mod.	6,984		7,114		10,245	
	Exe.	6,984	99.09	7,114	97.57	10,245	109.26
FONAES (S017)	App.	2,159		2,264		2,351	
	Mod.	2,295		2,235		2,325	
	Exe.	2,295	106.31	2,235	98.70	2,325	98.92
FOMMUR (S016)	App.	258.3		198		205	
	Mod.	258.3		196		205	
	Exe.	258.3	100.00	197	99.58	205	99.78
PRONAFIM (S021)	App.	269		155		115	
	Mod.	269		155		115	
	Exe.	269	99.89	155	99.44	115	99.78
PROSOFT (S151)	App.	716		715		742	
	Mod.	764		705		734	
	Exe.	764	106.71	705	98.59	734	99.01
PROIAT (S220)	App.	51.2		165		207	
	Mod.	25.3		55		218	
	Exe.	25.3	49.35	55	33.73	218	105.28
PROIND (U003)	App.	100.0		158		250	
	Mod.	433.6		430		55	
	Exe.	433.6	433.55	430	272.82	53	21.23
ProMexico (U004)	App.	250.0		33		567	
	Mod.	250.0		196		573	
	Exe.	250.0	100.00	196	584.43	573	100.99
Secretary of Social Development							
POP (S054)	App.	400.0		414		430	
	Mod.	414.8		408		450	
	Exe.	412.9	103.24	408	98.56	450	104.66
FONART (S057)	App.	168.2		151		212	
	Mod.	146.3		147		204	
	Exe.	144.1	85.71	147	97.37	204	96.39
Secretary of Urban and Territorial Development							
PROMETE (S088)	App.	1,000.0		1,100		1,142	
	Mod.	1,046.5		1,054		42	
	Exe.	1,046.5	104.65	1,054	95.78	41	3.59
FAPPA (S089)	App.	772.5		947		700	
	Mod.	833.5		968		25	
	Exe.	833.5	107.90	968	102.17	24	3.43
Programa de Apoyo a Jovenes Emprendedores Agrarios (S203)	App.	448.3		498		200	
	Mod.	260.4		173		199	
	Exe.	260.4	58.09	173	34.76	199	99.45
CONACyT							
Innovacion tecnologica (U003)	App.	2,000.0		3,000		4,000	
	Mod.	1,924.3		3,000		3,825	
	Exe.	1,911.3	95.57	2,906	96.86	3,825	95.63

Source: World Bank staff calculations based on indicators for reports of executed budget (SCHP 2012-2014).

Note: App=Approved, Mod=Modified, Exe= Executed. Percentage of execution is the amount of budget invested over the amount of budget planned for specific program. All the monetary values are in current values.

*The Efficiency and Equity of SME Programs in Mexico*⁶⁴

96. **Empirical evidence from the 1990s and early 2000s suggests that Mexico’s older SME programs have had a positive though limited impact on value added, employment and sales.** An analysis of four programs implemented in the 1990s, PROSEC, PNAA, the CONACyT fiscal incentives program and PAC-CIMO, found that participation in the first three had a positive and significant correlation with value added, gross production, total sales, employment and fixed assets, while participation in PAC-CIMO had no correlation.⁶⁵ Moreover, the connection was found to be stronger the longer the firm had been involved in the program, but it was also influenced by the firm’s characteristics before participation. Meanwhile, the absence of an observed effect for PAC-CIMO participation may result from other programs supporting more established firms—i.e. mid-sized exporting firms with larger endowments of human and physical capital—rather than small business and microenterprises.⁶⁶ The implication is that SMEs may be less capable of absorbing and leveraging assistance through public policy. Moreover, much of the impact of these programs became apparent after only three or four years, suggesting a lagged effect for this program type.

97. **Mexico’s current programs differ from those implemented in the late 1990s and early 2000s, and new and better program evaluations will be necessary to determine their impact.** Few impact evaluations for SME programs have been conducted since the mid-2000s. Yet since 2013 the portfolio of SME programs has been reorganized to reflect changes in the institutions managing these programs. Despite the considerable resources invested in SME support, there is little empirical evidence regarding their actual impact or the effect of their reorganization. Few systematic impact evaluations of SME programs in Mexico have been conducted, and most focus on beneficiary satisfaction or on quantifying program coverage, rather than determining the effectiveness of these programs in achieving their policy goals.⁶⁷

Evidence from the Registry of Beneficiaries

98. **The allocation of FNE subsidies from 2012-2014 are weakly linked with poverty levels, but correlates much more strongly with the location of employers.** State-level monetary poverty indicators explain just 6 percent of the variation in the volume of subsidies allocated by FNE (Figure 9.24). However, a third of the variance in the allocation of FNE subsidies is explained by the number of employers in a state. Excluding the Federal District increases the influence of this variable to 37 percent, while excluding Nuevo León (not shown in the graph) increases it to 47 percent. The above-average concentration of employers in the Federal District and Nuevo León is likely due to the attractiveness of Mexico City and Monterrey as commercial hubs, leading many firms to register there even if they operate elsewhere

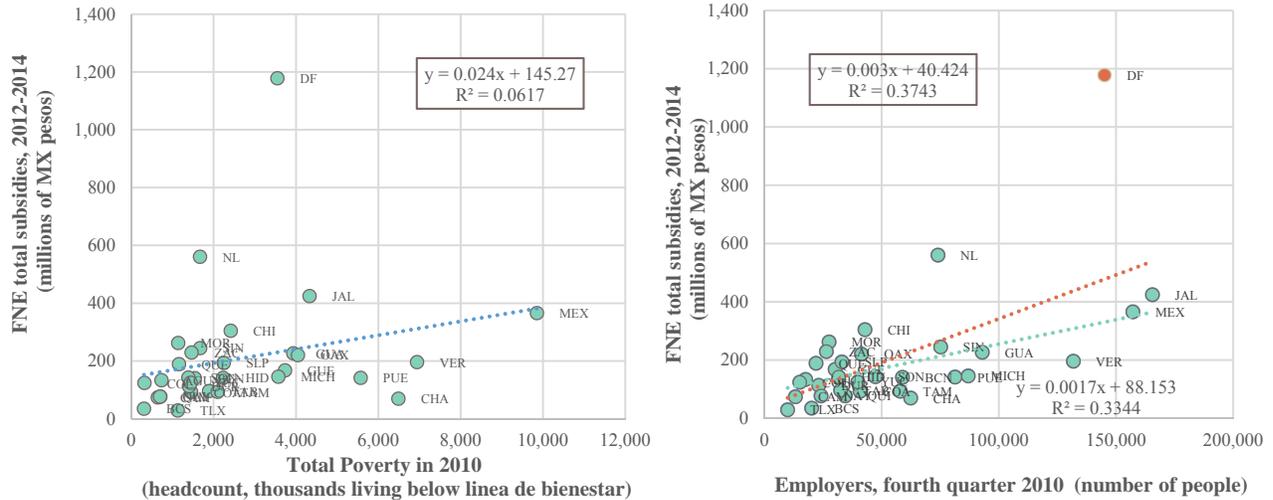
⁶⁴ This section relies on two data sources. The first is the FNE and FONAES registry of beneficiaries for 2012-2014, available on the SE’s website, which is used to evaluate the allocation of resources and gauge the impact of these programs utilizing the analytical methodology described in Box 10.1. The second is the SHCP’s *Gestión Pública*, which documents how the budget has been allocated between states, and evaluation reports from CONEVAL, which assess the social impact of specific programs.

⁶⁵ These programs had larger sample sizes for data up to 2005. The National Employment Salary, Training and Technology Survey (*Encuesta Nacional de Empleo, Salarios, Capacitación y Tecnología*) and Annual Industry Survey (*Encuesta Industrial Anual*) are used to create a non-experimental panel dataset. See López-Acevedo (2011) and López-Acevedo and Tinajero (2013) for a description of the dataset and an analysis of the impacts of these programs.

⁶⁶ Acevedo and Tan, 2011

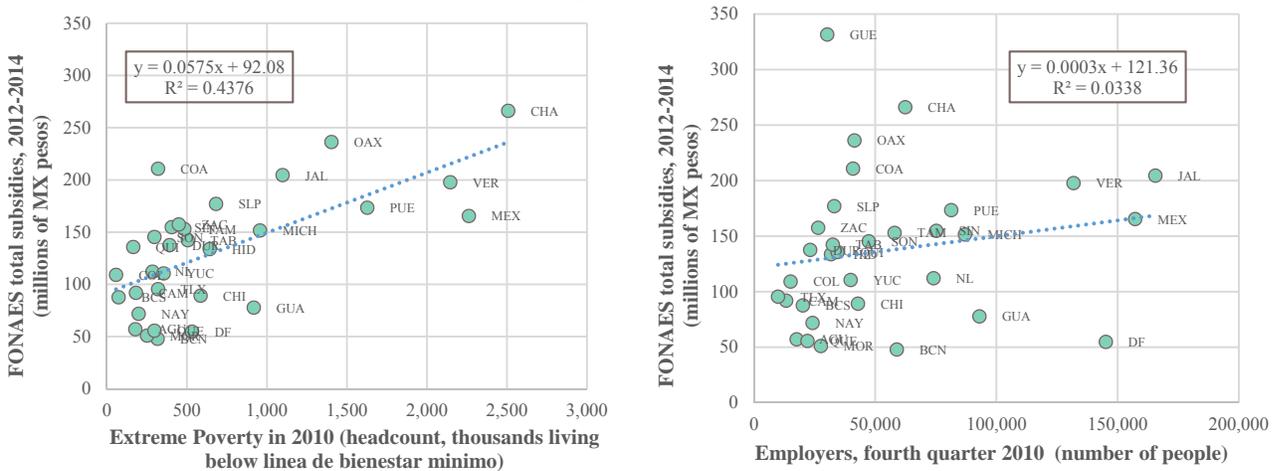
⁶⁷ The few evaluations that try to compare firms that are and are not involved in support programs may not fully account for all observed characteristics or the complicated biases that arise from unobserved heterogeneity and self-selection. See OECD, 2013.

Figure 9.24: Distribution of Subsidies from FNE According to Number of Poor and Employers by State



Source: World Bank staff calculations using data from ENOE at http://www.inegi.org.mx/Sistemas/Olap/Proyectos/bd/encuestas/hogares/enoe/2010_PE_ED15/po.asp?s=est&proy=enoe_pe_ed15_po&p=enoe_pe_ed15

Figure 9.25: Distribution of Subsidies from FONAES According to Number of Poor and Employers by State



Source: World Bank staff calculations using data from ENOE at http://www.inegi.org.mx/Sistemas/Olap/Proyectos/bd/encuestas/hogares/enoe/2010_PE_ED15/po.asp?s=est&proy=enoe_pe_ed15_po&p=enoe_pe_ed15

99. **The allocation of FONAES subsidies, by contrast, is correlated with extreme poverty, but not with the number of employers.** The number of people living in extreme poverty explains 41 percent of the total variation in FONAES subsidies (Figure 9.25), while the number of employers in the state explains just 3 percent. The targeting of FONAES subsidies is therefore clearly pro-poor, and it can be inferred that FNE focuses primarily on the *transformational* self-employed, whereas FONAES focuses on the *subsistence* self-employed. Figure 9.24 and Figure 9.25 indicate an appropriate distribution of functions between INADEM and INAES, with the former focusing on productivity and the latter on equity.

100. **There is no statistically significant correlation between FNE and FONAES subsidies and the rate of formal employment creation by state.** FNE and FONAES serve a diverse group of beneficiaries

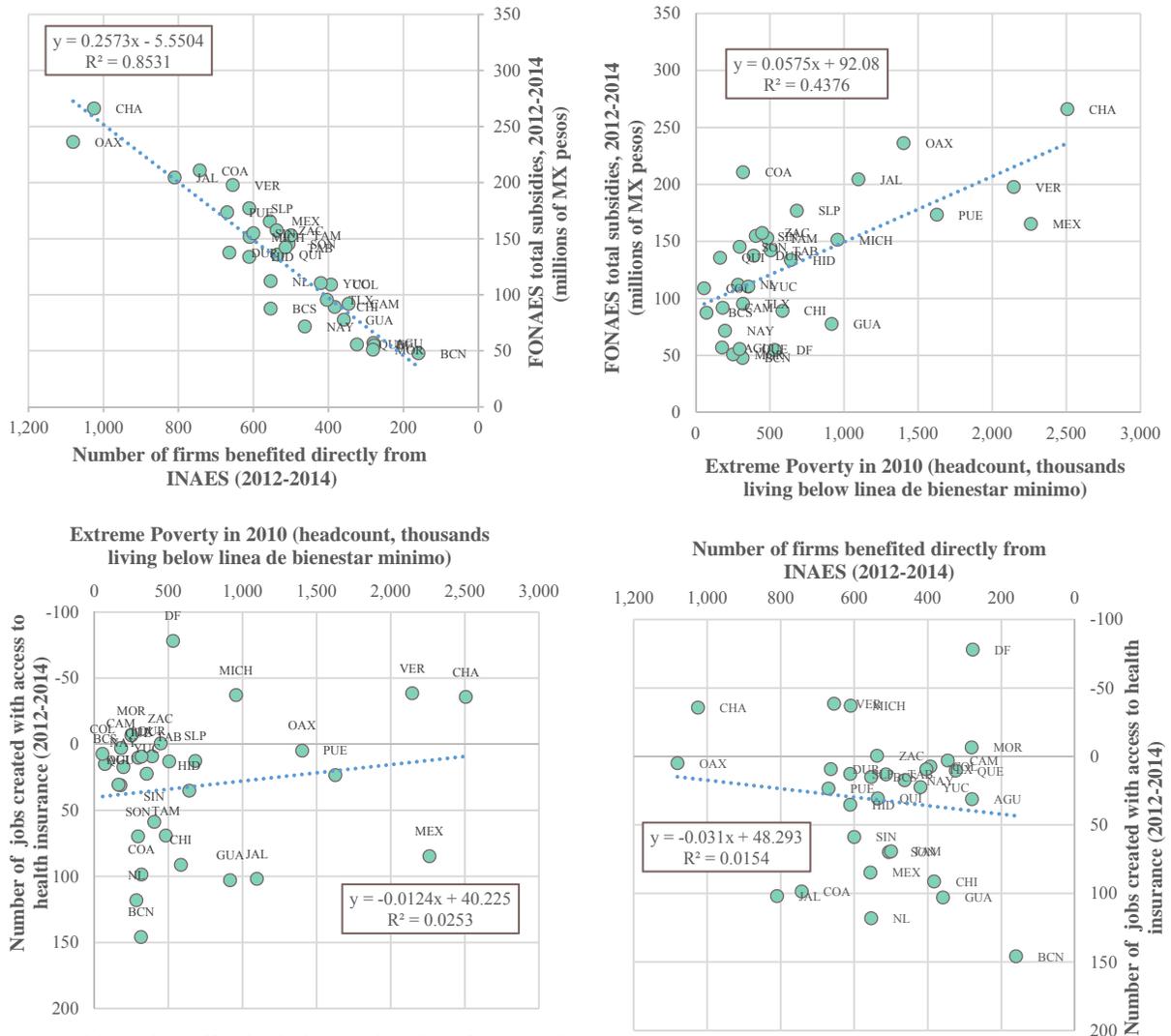
and advance multiple objectives, including increased sales, higher productivity, and greater market participation. Formal employment creation can be used as a proxy variable for these objectives.⁶⁸ While a strong correlation between the number of employers and FNE subsidies means a large number of firms are benefitting from FNE,⁶⁹ this does not appear to generate more formal sector jobs (Figure 9.26). Similarly, FONAES subsidies are correlated with poverty rates, suggesting that they are effective in reaching the poor, but this does not appear to have had an impact on formal job growth (Figure 9.27). It should be noted that the time period over which the programs are observed is fairly short, the programs are small relative to the size of the economy, and the variables used are only indicative. While preliminary evidence suggests that neither FNE nor FONAES subsidies are strongly linked to formal employment creation at the national or state level, more thorough impact analyses will be necessary to better understand their effects.⁷⁰

⁶⁸ Employment creation is an explicit objective of FONAES programs. However, *formal* employment is generally a better goal because it usually, though not necessarily, entails high productivity and integration into formal markets.

⁶⁹ Firms are not disaggregated by size because this information is not included in the registry of beneficiaries.

⁷⁰ Productivity growth may cause a short-term decline in employment followed by new employment creation as new high-productivity firms grow. The evidence presented here is relevant for the short term and may not capture this process. However, it indicates a need to find an association between these programs and formal employment creation, which is typically associated with high-productivity jobs.

Figure 9.27: FONAES Subsidies and Changes in Formal Employment by State



Source: World Bank staff calculations using data from ENOE at http://www.inegi.org.mx/Sistemas/Olap/Proyectos/bd/encuestas/hogares/enoe/2010_PE_ED15/po.asp?s=est&proy=enoe_pe_ed15_po&p=enoe_pe_ed15

Evidence from Available Impact Evaluations

101. **All of the programs listed in Table 9.12 have been subjected to regular performance evaluations, but only a few have had systematic impact evaluations.** As a result, it is difficult to conclusively determine their effectiveness in achieving their ultimate policy goals. In addition, many of these programs have exhibited an unstable output performance, with some indicators declining in recent years and others surpassing their targets (Table 9.13). In some cases, indicators have not been published or updated. Consequently, CONEVAL performance evaluations are one of the few available sources of information on the outputs and outcomes of these programs.⁷¹

⁷¹ CONACyT's *Innovación Tecnológica* program is not included because it is not specifically focused on SMEs. ProMexico is and FONART are excluded for the same reason.

Table 9.13: Federal Budget to SMEs: Results Indicators

Institution/ Program/ Indicator	Stage of measure	2012		2013		2014	
		Goals	Rate of achievement	Goals	Rate of achievement	Goals	Rate of achievement
Economy sector -Secretary of economy + INADEM +INAES + PRO-MEXICO							
FNE (S020)							
INDICADOR: Porcentaje de generación de empleos formales generados por el Programa.	Mod	80,000		80,000		70,000	
	Alc	78,689	98%	79,225	99%	52,023	74%
FONAES (S017)							
INDICADOR: Porcentaje de ocupaciones generadas por el Programa en el segmento de micronegocios de bajos ingresos	Mod	13.40		n.i		n.i	
	Alc	17.80	133%	n.i		n.i	
PRONAFIM (S021)							
INDICADOR: Porcentaje de variación interanual de microcréditos otorgados a emprendedores de bajos ingresos.	Mod	129.07		96.4		n.i	
	Alc	93.90	73%	83.8	87%	n.i	
PRO-SOFT (S151)							
INDICADOR: Número de empleos-proyecto mejorados	Mod	28,000		25,000		23,000	
	Alc	27,420	98%	33,059	132%	22,581	98%
PRO-MEXICO							
INDICADOR: Porcentaje de la inversión extranjera directa atraída por los proyectos apoyados por el Fondo ProMéxico con respecto a la inversión extranjera directa atraída en México.	Mod	n.i		20.5		8.12	
	Alc	n.i		46.3	226%	3.10	38%
Secretary of Social Development							
Opciones productivas (S054)							
INDICADOR: Número de proyectos de Agencias de Desarrollo Local, Integradores y de Cofinanciamiento apoyados	Mod	n.i		1875		1870	
	Alc	n.i		2661	142%	n.i	
Secretary of Urban and Territorial Development							
PROMETE (S088)							
INDICADOR: Porcentaje de proyectos productivos activos a un año de haber sido apoyados.	Mod	76.00		77.01		77.01	
	Alc	114.09	150%	108.82	141%	88.00	114%

Source: World Bank staff calculations based on indicators for results report (SCHP, 2012-2014)

Note: The programs selected all had a budget of more than MXN 400 million in 2014.

ni=no information available. Mod=goal decided in the modification stage. Alc=achieved value of the specific goal.

102. **The main federal program for SME support, the FNE was created in 2013 by merging the *Fondo PyME* and the *Entrepreneurial Fund (Fondo Emprendedor)*.** Given its design and objectives the FNE would seem to focus on promoting the success of the *transformational* self-employed. However, the last performance evaluation of *Fondo PyME* (before it was subsumed into FNE) highlighted two main issues. First, the program's definition of potential beneficiaries is too broad, effectively encompassing all SMEs as well as a wide range of other firms, the precise number of which has varied substantially in recent years. Second, prior impact evaluations indicated that the program was having a positive effect on sales growth but not on employment creation. However, issues with the experimental methodology call the results into question, and more evidence is necessary to confirm the program's impact. Nevertheless, the evaluation clearly indicates a need to redefine the program's target population and primary goals, as its wide range of objectives and beneficiaries has hindered its targeting accuracy. INADEM, the institution now in charge of managing FNE, is committed to systematic data collection and regular program monitoring, and a recent design evaluation highlighted that FNE now focuses on a more limited number of

SMEs from selected strategic sectors.⁷² These changes are positive, but determining the actual impact of the program will require a comprehensive impact evaluation.

103. FONAES is designed to improve the living conditions of low-income households by supporting the *subsistence and vocational* self-employed, primarily through training and financing.

It seeks to enhance the technical, financial and organizational skills of entrepreneurs and includes not only SMEs but also cooperatives and producer associations. Before 2013 FONAES focused on employment creation through support to low-income entrepreneurs, and potential beneficiaries were defined as those in the bottom six deciles of the income distribution. However, FONAES's target population is limited. The program has received performance, design and cost-benefit evaluations, but not an impact evaluation. While recent performance evaluations indicate that it has achieved its targets for employment creation, this cannot be empirically verified. Recent evaluations also indicate the need to redefine the program's target population and focus on more sustainable forms of employment.⁷³ Legislative changes and the reformulation of objectives have reduced the number of beneficiaries from 49,688 in 2012 to 9,700 in 2014.

104. *Opciones productivas* also focuses on supporting the *subsistence* self-employed. This program provides business skills training and entrepreneurship funding for poor households in rural areas. It operates in Mexico's five poorest states, suggesting that it is generally well targeted. However, between 2008 and 2012 its budget declined from MXN 1.4 billion to MXN 0.45 billion, while its number of beneficiaries fell from 29,000 to 10,000. Two-thirds of its programmatic activities are still functioning, but many performance indicators have not been properly assessed. The program's shrinking budget and the lack of information on its output have prompted multiple recommendations that it be reevaluated and redesigned.

105. The reorganization of SME support programs over the last two years had an important effect on smaller programs.

The authorities appear to be consolidating programs according to their beneficiaries or areas of intervention to minimize overlaps and parallel efforts. For example, PRONAFIM promotes general access to microfinance, while FOMMUR focuses on microfinance access among rural women. However, recent performance evaluations have found that neither program effectively defines its target population and both could arguably be subsumed by FONAES.⁷⁴ Budgets and performance indicators for PRONAFIM and FOMMUR have declined in recent years (Table 9.12 and Table 9.13), and the government may be preparing to combine or otherwise reorganize them. FAPPA and PROMETE support self-employed workers in rural areas, specifically landless individuals and women. Due to their focus on the rural sector both have been transferred to SAGARPA. While performance indicators for both programs have remained high and stable, their budgets have declined. Surprisingly, although the Program to Support Young Agricultural Entrepreneurs (*Programa de Apoyo a Jovenes Emprendedores Agrarios*) shares many of the characteristics of FAPPA and PROMETE, it has not yet been transferred to SAGARPA. PRODIAT and PROSOFT appear to be complementary, and their budgets and performance indicators have remained stable or grown slightly in recent years. Both programs support information technology and both remain within the SE. However, their specific area of policy intervention, defined imprecisely as "market failures in access to information technology," could be further improved and refined.

106. Mexico has a significant number of programs designed to promote entrepreneurship, many of which focus on support to SMEs.

However, consistent with the international experience, few of these programs have had proper impact evaluations. Moreover, many programs have overlapping beneficiaries or areas of intervention, and some programs do not clearly define their rationale. The government is currently reorganizing and redesigning many of these programs based on their orientation towards

⁷² See: http://www.economia.gob.mx/files/transparencia/fondoemprededor/evaluacion_diseno_fondo_emprededor_2013.pdf

⁷³ For instance, it could be more effective to focus on long-term formal employment creation or higher productivity.

⁷⁴ See CONEVAL, 2014.

..

productivity and entrepreneurship (i.e., a focus on *transformational* self-employment) or social protection and social development objectives (i.e., a focus on *subsistence* self-employment).

CONCLUSIONS AND RECOMMENDATIONS

107. **Subsidies for agricultural and rural development are the most complex element of Mexico's federal budget.** The PEC and Agricultural Sectoral Plan account for approximately 200 programs, though so many of these overlap that from an implementation perspective only 120 discreet programs actually exist. 48 of these are subsidies allocated to ASRD, yet some major programs such as PROSPERA, PET and *Seguro Popular* are not exclusively focused on rural areas. Among those programs most closely associated with agricultural activities subsidies seem to be mostly allocated to areas of higher poverty, and their relative and absolute incidence appear to be pro-poor. However, there is little evidence of a statistical correlation between the allocation of agricultural subsidies and changes in either total output or average productivity, both of which have remained essentially stagnant over the past decade. Moreover, many of the largest programs have not been subjected to thorough impact evaluations, and their effectiveness has yet to be confirmed through empirical analysis.

108. **The PEC should be thoroughly reformed to sharpen its focus on rural development.** The PEC's conflation of rural and non-rural programs and beneficiaries obscures its core purpose, which is to define a strategy and monitoring mechanisms for rural development policy. In addition, steps must be taken to pare down the multitude of ASRD programs and subsidies. Some programs should be merged to leverage economies of scale, while others should be phased out based on impact evaluations and cost-benefit analyses. Finally, regular performance and impact evaluations are necessary for all programs, including those for which they are not currently mandated by law.

109. **Subsidies for social housing are well targeted.** This is true for programs focused on both the moderately poor (e.g. CONAVI's *Subsidio Federal a la Vivienda*) as well as the extreme poor (e.g. *Vivienda Digna*, *Vivienda Rural* and PDZP). Moreover, housing subsidies are generally effective in achieving both intermediate outputs and overarching policy objectives. However, their small budgets and limited coverage areas limit their ability to expand access to home financing and reduce the national housing deficit.

110. **The budgetary size of social housing subsidies is dwarfed by the enormity of Mexico's housing deficit and its high level of housing poverty.** However, housing subsidies should only be expanded in the context of a more effective urban development policy, which devotes special attention to support for self-built housing and other forms of assistance to the poorest households. The government is currently redesigning its social housing policy to better reflect these considerations.

111. **Mexico has a significant number of programs for promoting entrepreneurship, many of which focus on support to small and medium enterprises.** However, few of these programs are subjected to proper scientific impact evaluations, and consequently no definitive conclusions can be reached regarding their effectiveness. Moreover, some programs have overlapping beneficiaries or constitute parallel interventions, while others have ill-defined targets or are not grounded in a clear policy purpose.

112. **Support for small-scale entrepreneurship should focus on overcoming market failures and equity constraints that prevent self-employed entrepreneurs from growing their businesses or attaining a minimum welfare standard.** Most current programs suffer from a lack of clarity in their target populations, development goals and performance indicators. The government is currently redesigning and reorganizing many of these programs. Productivity-enhancing programs are now under the purview of INADEM and CONACyT, while INAES is responsible for programs promoting equity and social inclusion. Future analysis should help to shed light on their effectiveness in terms of promoting employment and entrepreneurship, as well as advancing social protection and social development objectives.

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MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 10: Water and Sanitation



This chapter was prepared by Cecilia Briceno-Garmendia, Ricardo Sandoval and Harry Moroz.

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EXECUTIVE SUMMARY

Mexico’s water supply and sanitation (WSS) sector is governed by a complex and highly fragmented institutional structure, in which responsibilities and resources are simultaneously delegated, executed and transferred across agencies at the federal, state and municipal levels. The Mexican Constitution and the National Water Law (*Ley de Aguas Nacionales*, LAN) assign WSS responsibilities to multiple levels of government. Under the Constitution municipalities are responsible for providing water supply, drainage, sewerage, water treatment, and wastewater disposal services. Municipalities can provide these services directly via a centralized public directorate (*dirección* or *dependencia*), indirectly through decentralized entities known as “operators” (*organismos operadores*), or they can transfer responsibility to a dedicated civic organization, which is common in smaller localities. In 2014 Mexico had 2,683 economic units dedicated to the provision of public WSS services.

In contrast to the decentralized and highly fragmented institutional arrangements for service provision, almost all funding for WSS infrastructure investment is provided via the National Water Commission (*Comisión Nacional de Aguas*, CONAGUA), and the sector is heavily dependent on federal resources. The LAN vests CONAGUA with two core responsibilities: (i) the promotion and support of WSS services and (ii) the development of WSS systems in coordination with states and municipalities. While the Constitution tasks municipalities with providing WSS services, the LAN entrusts CONAGUA with “supporting the development” of the sector. However, neither document clearly defines responsibilities for financing and executing projects. The widespread assumption is that municipalities are supposed to take the lead in identifying, designing and implementing projects, with state and federal governments playing a more limited and subsidiary role.

In 2013 Mexico invested about 0.25 percent of its GDP—or MXN 37 billion—in the WSS sector, a relatively modest amount compared to its peers. Total investment includes budgetary and non-budgetary federal resources, as well as funds from state and municipal governments, state water commissions and the private sector. Some of these investments were in the form of funds pledged by local governments in order to secure matching federal funds. Latin American countries with similar or higher coverage levels typically spend more than Mexico, and some regional leaders spend more than twice as much.

CONAGUA itself executes about half of total WSS investment, and this share has doubled in the last 10 years. The importance of CONAGUA’s financing role goes beyond its own investments. It also manages federal transfers, known as U and S Programs, which incentivize complementary investments and unlock matching funds. When co-financed investments are included, CONAGUA’s share in total WSS investment increases to about 80 percent.

Main Messages

Over time the composition of federal financing mechanisms for WSS investments has shifted in favor of K Programs, while spending on S and U Programs has remained broadly unchanged in real terms. This trend has reinforced CONAGUA’s key role not only in funding but also in executing WSS investments. In real terms, the amount allocated to annual subsidies via the federalized S and U Programs has remained broadly stable at about 30-40 percent of CONAGUA’s budget despite proactive attempts by the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*, SHCP) to reduce the amount of subsidies channeled through U Programs, which are subject to less stringent controls.¹ U Programs are governed by unpublished rules, and curtailing their use is critical to the transparent management of sectoral resources. Meanwhile, S Programs are the most stable and predictable component

¹ This is confirmed by the 2016 budget proposal, which would consolidate, minimize or eliminate U Programs.

of CONAGUA's budget, even though the SHCP clearly defines them as temporary interventions designed to subsidize single-year investments.

Moreover, there is clear evidence that states and municipalities have formed a tacit agreement with CONAGUA to use the promise of future S Program financing to simulate a multiannual investment cycle. Municipal governments and CONAGUA define a multi-year investment project using "investment stages," with each individual stage financed by a separate annual S Program transfer. The Budget Law cannot guarantee future S Program allocations, which in theory creates a risk that financing may cease before a project is completed. In practice, however, S Program allocations have been CONAGUA's most stable fiscal transfer mechanism of the last decade.

The use of successive S Program transfers to finance multi-year projects is an open secret in Mexico's WSS sector. Multi-year projects financed through this system are not registered in the investment portfolio of the SHCP because CONAGUA is not the executing entity. As a result, S Programs finance state and municipal projects that are not subjected to the same rigorous cost-benefit evaluations as projects included in the federal portfolio. CONAGUA, not SHCP, tracks the execution and completion of investment and prioritizes works in progress when allocating funds. The informal nature of the financing arrangements also leaves S Program investment projects exposed to uncertainty, as future financing is effectively dependent on resources that have not yet been allocated.

The delegation of budget-execution responsibilities included in the operating rules leaves CONAGUA with considerable latitude to shift resources within the fiscal year. An estimated 70-80 percent of S Program disbursement schedules are altered in-year. CONAGUA has discretionary authority to adjust allocations both within and across municipalities, provided that the aggregate disbursements match the original SHCP disbursement schedule. Allocations are adjusted through agreements with the Commission for Regulation and Supervision (*Comité de Regulación y Seguimiento*), with the participation of state authorities and sometimes municipalities. If the process for allocating S Program funds were governed by clear, fully disclosed principles, the discretionary transfer of resources could still allow for an important degree of flexibility to manage unexpected disruptions in the municipal-level disbursement schedule. However, under the current informal system the discretionary transfer of resources diminishes the transparency of resource allocation and heightens the risk of undue influence.

Poor planning by municipalities is an important cause of delays in budget execution. Projects are often prepared late, and the sector lacks a pool of prioritized pre-feasibility project files. Project preparation and technical validation by CONAGUA both primarily occur within the same fiscal year as implementation. This encourages subnational governments to overinvest in projects that can be executed within a given year and that have access to federal subsidies, regardless of whether those projects reflect local needs or strategic priorities. The unpredictability of CONAGUA transfers also incentivizes local governments to seek parallel resources from other agencies. Finally, duplications, overlaps and redundancies in the operating rules governing annual capital subsidies exacerbate these issues, compounding planning difficulties and increasing transaction costs.

Overall spending on technical monitoring and supervision appears to have consistently decreased since 2008. The share of the CONAGUA budget allocated to these activities fell from 5.6 percent to about 1.5 percent, reflecting a decrease of about MXN 1.275 billion (in real 2013 pesos) between 2008 and 2015. The decline in resources for oversight, feasibility analyses and institutional support is a source of concern for CONAGUA given its critical role in coordinating programs, managing the WSS sector, enforcing water rights, providing technical quality control and ensuring the quality of investment allocations under U and S Programs. While CONAGUA's fundamental responsibility is to preserve the integrity of the national water system and progressively improve the quality and availability of WSS services, recent trends indicate that CONAGUA is shifting its priorities and resources to the execution of major public works.

Conclusions and Recommendations

Introducing a formal mechanism for allocating multi-year funds would eliminate many of the negative effects of the current informal system. In the medium term the capital budget allocation process should be reformed to include multiannual funding mechanisms beyond the K Projects financed by SHCP. Municipalities should receive an indicative medium-term budget ceiling and begin formulating program operating rules based on a two-year horizon. While multi-year project financing is unusual in Mexico, it is clearly authorized by Article 74 of the Mexican Constitution.

The WSS sector will require major investments in the construction and long-term operation of capital projects. Long-term investments need to be funded by long-term financial mechanisms. In Europe and the US, WSS projects have long been financed by municipal bonds, often complemented by property taxes or other own-source municipal revenues. In Mexico, federal transfers are the main source of investment capital, supported to varying degrees by local taxes and international aid. Municipal bonds are generally superior to federal funds, as financing local projects with local revenues promotes efficiency in project implementation by introducing incentives to ensure that the health and productivity benefits from water supply and sanitation projects outweigh the public funds invested.

Policymakers should consider harmonizing and simplifying operating rules to prevent the duplication of functions, align the objectives of multiple programs and effectively target diverse constituencies with different water and sanitation requirements. Operating rules should be periodically revised, and expenditure management guidelines should allow a degree of flexibility between capital investment and operational expenditure allocations. The recent consolidation of CONAGUA programs was a highly positive step, but it could inadvertently shift resources toward more expedient objectives at the expense of identified coverage gaps. Reducing the number of programs will not necessarily increase expenditure efficiency, and different approaches such as results-based contracting and financing, multiannual budgeting, allocations based on annualized costs over the life of the asset, or allocation incentives based on verifiable operating improvements should also be considered.

Increased budgetary flexibility must be accompanied by greater transparency in decision making and reporting. CONAGUA's informal system of intra-annual, intra-program, inter-state transfers should be formalized based on clear allocation criteria. The investment cycle should be revised to match the needs of actual projects, and in cases where unexpected events require shifts in short-term funding, the scope and rationale for such reallocations should be published in detail.

Policymakers should redouble their efforts to improve the planning and technical capacities of municipalities and sector operators. Efforts to develop local capacity should focus on poorer states and municipalities, and CONAGUA should reverse the trend towards reducing allocations for projects supporting improvements in public administration. Local analytical capacity should also be developed, particularly in disadvantaged states and localities, and CONAGUA should invest more in monitoring and evaluating projects from an asset-lifecycle perspective. Over the longer term policymakers will need to develop a more thorough understanding of how operational costs are funded by *organismos operadores*. An assessment of how the sector's financial operations function in practice will be necessary to realign investment incentives and ensure the long-term financial sustainability of the WSS sector.

INTRODUCTION

1. **Mexico’s water supply and sanitation (WSS) sector is governed by a complex and highly fragmented institutional structure in which responsibilities and resources are simultaneously delegated, executed and transferred across agencies at the federal, state, and municipal levels.** The Mexican Constitution and the National Water Law (*Ley de Aguas Nacionales*, LAN) assign WSS responsibilities to multiple levels of government. Under the Constitution municipalities are responsible for providing water supply, drainage, sewerage, water treatment, and wastewater disposal services. Municipalities provide these services directly via a centralized public directorate (*dirección* or *dependencia*), indirectly through decentralized entities known as “operators” (*organismos operadores*), or they can transfer responsibility to a dedicated civic organization, which is common in smaller localities. Urban areas are almost always served by *organismos operadores*, while in rural areas the typical model is the “rural committee” (*comité rural*), which receives support from the municipality or state for investments and operational costs. According to the National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*, INEGI), in 2014 Mexico had 2,683 economic units dedicated to the provision of public WSS services.²

2. **The LAN assigns more than 50 discrete responsibilities to the National Commission for Water (Comisión Nacional del Agua, CONAGUA).** Among these are two key mandates: (i) “to promote and support [WSS] services” and (ii) “to promote and support the development of [WSS] systems” in coordination with states and municipalities.³ Thus, while municipalities are responsible for WSS service provision under the Constitution, the LAN tasks CONAGUA with supporting the improvement and expansion of WSS services. However, the law does not clearly define responsibilities for funding and executing infrastructure projects or identify specific financing sources. Consequently, unlike the highly fragmented institutional framework for service provision, the capital budget for the WSS sector is heavily reliant on a single stream of federal resources channeled through CONAGUA.

3. **Federal WSS funds are allocated through programmatic budget lines and distributed to municipalities through their respective states.** The states serve as intermediaries, consolidating infrastructure investment proposals from municipal authorities and maintaining an open dialogue with CONAGUA in order to negotiate for federal programmatic resources. Moreover, it is not uncommon for states to supplement federal WSS transfers to municipalities with their own resources.

4. **Mexico’s national planning process provides a medium-term framework for determining WSS priorities and allocating resources.** The National Development Plan (*Plan Nacional de Desarrollo*, PND) for 2013-2018⁴ establishes the government’s overarching objectives and broad strategic orientation. This document then serves as the basis for more detailed plans, underpinned by specific objectives, strategies, and indicators. This includes the National Water Program (*Programa Nacional Hídrico*) 2014-2018⁵ and the National Infrastructure Program (*Programa Nacional de Infraestructura*) 2014-2018.⁶

5. **The PND includes two strategies that are particularly relevant to the water sector.** The plan proposes a strategy for sustainable water management that aims to extend access to all Mexicans and promoting the sustainable use of water resources. This is in line with the goals of the Prosperous Mexico (*México Próspero*) strategy, which includes the objectives of fostering environmentally responsible and

² This is up from 2,517 economic units in 2009 (INEGI, 2015).

³ *Ley de Aguas Nacionales*, Article 9, Sections XIII and XIV.

⁴ Gobierno de la República de México. 2013. Plan Nacional de Desarrollo 2013-2018.

⁵ Gobierno de la República de México. 2014. Programa Nacional Hídrica 2014-2018.

⁶ Gobierno de la República de México. 2014. Programa Nacional de Infraestructura 2014-2018.

economically inclusive growth, preserving natural resources, and promoting a productive farming and fishing sector to guarantee food security.

6. **The National Water Program builds on these and other strategies in defining its primary objective of “attaining water security and sustainability in Mexico.”** This encompasses six more specific goals: (i) to promote integrated and sustainable water management; (ii) to reinforce water security against droughts and floods; (iii) to expand access to drinking water, sewerage and sanitation services; (iv) to increase the sector’s technical, scientific and technological capacities; (v) to ensure sustainable water supply for agricultural irrigation, energy, industry, tourism, and other economic and financial activities; and (vi) to strengthen Mexico’s international involvement in water issues.

7. **The National Infrastructure Program elaborates on the Prosperous Mexico strategy by aligning its goals with those of the National Water Program.** The infrastructure plan’s key WSS objective is to “increase water infrastructure both to secure water for human consumption and agricultural irrigation, and for sanitation and protection against floods.” The infrastructure plan outlines specific projects in the WSS sector designed to achieve this goal. It also establishes indicators to measure progress and specifies financing sources.

8. **Within this planning framework each federal agency establishes its investment needs according to the objectives and priorities defined in national, sectoral, institutional, regional and special development programs.** WSS investments fall under the following categories: (i) federal direct investments, known as “investment programs and projects” (*programas y proyectos de inversión*, PPI), which may or may not include state or municipal funds, (ii) long-term infrastructure projects (*proyectos de infraestructura productiva de largo plazo*); (iii) infrastructure built through public-private partnerships (*asociación público privada*, APP); and (iv) investments by state or municipal authorities with partial subsidies from federal programs.

9. **Planned PPI’s and their role in each sector strategy are communicated to the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*, SHCP) through the Planning Mechanism (*Mecanismo de Planeación*, MECAPLAN).** All investments must be included in an annual document submitted by end-March in order to be eligible for inclusion in SHCP’s Integrated Programming and Budgeting Process (*Proceso Integral de Programación y Presupuesto*, PIPP), which evaluates each investment’s public benefit according to a pre-established methodology. The PIPP ensures that all investments are aligned with the PND, as well as any relevant sectoral or special programs, and prioritizes projects according to their anticipated social and economic impact.

SCOPE OF THE ANALYSIS

10. **The analysis presented in this chapter was prepared at the request of the SHCP.** The authorities worked with the World Bank team to align the scope and focus of the analysis with its key priorities and limited analytical budget. As a result, this chapter concentrates on the WSS sector and excludes other aspects of water resources management (WRM). WSS represents an estimated 45 percent of the federal WRM budget, and thus it provides a sound starting point for evaluating public expenditure processes related to WRM and assessing their efficiency, and impact. In line with the overall orientation of the Public Expenditure Review this chapter examines programs and projects that are either partially or fully financed by federal resources.

11. **The analysis encompasses investments executed at both the federal and subnational levels that are financed totally or partially by federal funds.** This includes K Programs implemented directly by CONAGUA, as well as WSS-related programs implemented by the National Commission for the Development of Indigenous Peoples (*Comisión Nacional para el Desarrollo de los Pueblos Indígenas*,

CDI), the National Housing Commission (*Comisión Nacional de Vivienda*, CONAVI), the Ministry of Social Development (*Secretaría de Desarrollo Social*, SEDESOL) and the Ministry of Agrarian, Territorial and Urban Development (*Secretaría de Desarrollo Agrario, Territorial y Urbano*, SEDATU). The analysis also covers federalized program investments executed at the subnational level financed through federalized transfers and counterpart funding, including programmatic spending on S and U Programs.

12. **As the scope of the analysis is confined to expenditures involving federal funds, the conclusions refer solely to WSS investment and exclude the spending patterns of states and municipalities.** Operational and maintenance expenses are not included, nor are tariff-financed expenditures. The only maintenance expense captured in the analysis is the maintenance of water systems in the Mexico City Valley, as this is financed directly by the federal budget and via two trust funds (*fideicomisos*) created expressly for that purpose.

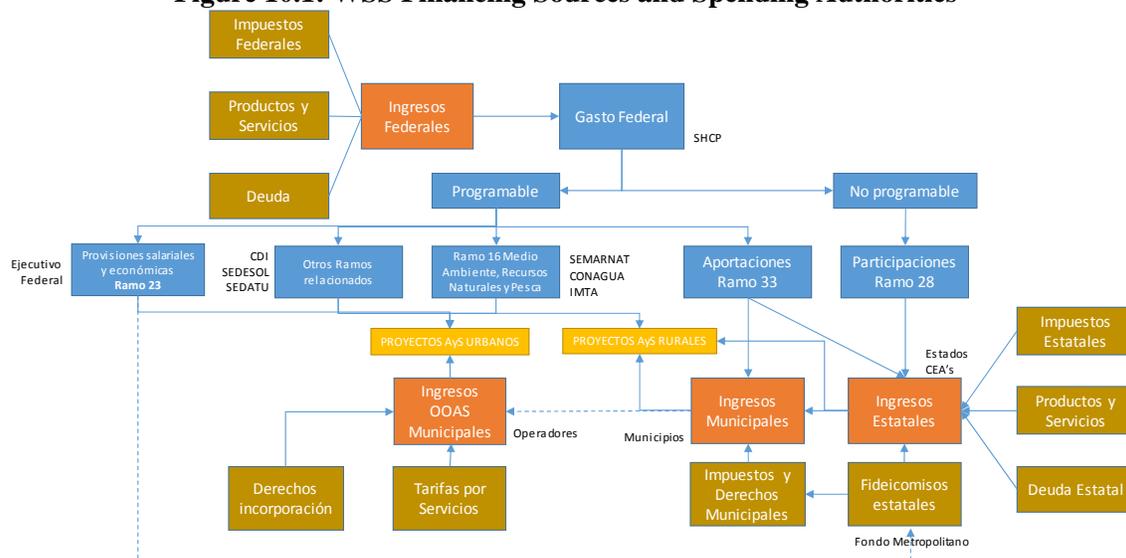
ANNUAL BUDGETARY RESOURCE TRANSFERS IN THE WSS SECTOR

13. **SHCP coordinates the budget cycle, which consists of seven stages.** These include: (i) Planning (January to April), (ii) Programming (May to September), (iii) Budgeting (September to November), (iv) Execution and Oversight (January to December of the following year), Monitoring (April, July, October, and January), Evaluation (January to December), and Execution Reporting (first quarter of the following year). Funds are typically released on the first day of each calendar year.

14. **WSS infrastructure projects can be financed through several different channels, including direct federal resources allocated as programmatic spending (*gasto programable*).** Programmatic spending for WSS investments is most often allocated under three budget lines (*ramos*) that finance the operations of specific ministries and public agencies with objectives that involve WSS. *Ramo 16* funds the Ministry of Environment and Natural Resources (*Secretaría del Medio Ambiente y Recursos Naturales*, SEMARNAT), which encompasses programs operated by CONAGUA. Other public agencies that implement WSS projects are financed through their respective *ramos*, such as CDI, SEDESOL, and SEDATU. Additional funding is provided through conditional budgetary transfers (*aportaciones*) under *Ramo 33*, which are designed to finance specific objectives at the state level. Finally, *Ramo 23* finances salaries and provides other resources via metropolitan funds, regional funds and other specific funds.

15. **The specific destination of earmarked federal resources is established in the annual planning, programming and budgeting cycle and aligned with the PND and/or the National Infrastructure Program.** In some cases, federal resources assigned to states and municipalities from non-programmatic spending are reclassified as WSS investment in order to qualify for matching federal funds, in which case these funds fall under *Ramo 28* (*participaciones*). The use of *participaciones* is under the purview of state and local governments, and these transfers provide a significant share of the local financing necessary to secure matching federal funds.

Figure 10.1: WSS Financing Sources and Spending Authorities



Source: World Bank staff

16. **Fideicomisos are the most important source of non-budgetary federal resources.** For example, FONADIN was created to promote private sector participation in infrastructure development. Its capital endowment came from the consolidation of two large federal funds, and it actively solicits private investment. Other *fideicomisos* were created to secure and protect the resources necessary to maintain and operate Mexico City's vast and complex infrastructure.

17. **The two main federal agencies in charge of managing and administering federal budgetary transfers to the WSS sector are SHCP and CONAGUA.**⁷ CONAGUA is a quasi-autonomous body operating under SEMARNAT. States and municipalities also carry out WSS projects, and the latter are primarily responsible for defining local WSS priorities. Institutions working with *fideicomisos* are also active in the WSS sector, particularly the National Bank of Public Works and Services (*Banco Nacional de Obras y Servicios Públicos*, BANOBRAS). Other federal agencies such as CDI, SEDESOL and SEDATU, whose mandates include WSS services, finance projects directly (Figure 10.1).

Programmatic Spending Classifications and CONAGUA Programs

18. **Programmatic spending on WSS can be divided into three program types.** The first includes sectoral PPIs known as K Programs. The second encompasses federalized programs including S Programs, or programs subject to operating rules published as part of the annual budget process, as well as U Programs, which are subsidies governed by unpublished guidelines. The third category includes other budgetary programs such as public goods (B), promotion and development (F), the armed forces (F), affiliated operations (W), jurisdictional obligations (L), pensions and retirement (J), statutory support (T), stabilization funds (Y), investment and pension-restructuring funds (Z), and joint federal-state expenditures (I). A number of purely federal programs provide critical support to CONAGUA's functions in the areas of sectoral governance, regulation, oversight, administration and technical analysis. These programs include: public services (E), planning and public policy (P), regulation and supervision (G), relevant activities (R), support activities (M), internal supervision authority (O), and natural disasters (N). This analysis focuses on the first two categories due to their major role in channeling resources to the WSS sector.

⁷ For more details of the agencies involved in the budgeting and expenditure processes see Annex 1.

19. **CONAGUA is responsible for executing K Programs in the WSS sector and for allocating resources for federalized programs.** The planning, budgeting, monitoring and quality control systems for K Programs differ significantly from those of federalized spending programs. S Programs are executed by state or municipal authorities in coordination with the federal government through fiscal decentralization agreements. Federalized programs are particularly relevant in the WSS sector, where they account for the bulk of CONAGUA's programming and represent more than half of total public spending.

i) Investment Programs and Projects (PPI): K Programs

20. **Most K Programs are multi-year investment projects, though they also include maintenance and rehabilitation programs and analytical studies of federal WSS assets.**⁸ K Programs comprise “actions which require capital spending outlays on infrastructure and public works, such as construction, the acquisition and modification of real estate, the acquisition of property associated with these works, and rehabilitation efforts designed to increase the capacity or extend the useful life of infrastructure and real estate assets.”⁹

21. **As part of the Mexican government's efforts to adopt results-based budgeting, investment projects are subjected to a process of evaluation and prioritization.**¹⁰ The investment cycle comprises six stages: (i) strategic investment planning, which includes an analysis of the strategic framework, PPIs and the investment portfolio; (ii) analysis and evaluation of each individual PPI; (iii) an application to include the PPI in the investment portfolio, which can take as long as 7 years depending on the scope and complexity of the project; (iv) investment prioritization, (v) project budgeting, and (vi) monitoring and evaluation. These priorities are expected to change following the introduction of zero-base budgeting in fiscal year 2016.

22. **PPIs are analyzed according to different criteria depending on the cost of the project.** Projects under MXN 50 million require a formal description detailing their concept; (ii) projects between MXN 50 and 500 million require a full project profile or a simplified cost-benefit analysis; and (iii) projects over MXN 500 million require a pre-feasibility study or a comprehensive cost-benefit analysis. SHCP's investment unit has the authority to require more detailed analyses of proposed projects as necessary. The criteria for selecting projects are also defined in Article 34 of the Federal Budgeting and Financial Responsibility Law. These include: (i) socioeconomic profitability; (ii) the reduction of extreme poverty; (iii) regional development; and (iv) complementarity with other PPIs.

23. **CONAGUA considers additional criteria when determining whether to include a given project in the federal portfolio.** These include (i) its status as either a new project, an ongoing project, or a maintenance and rehabilitation project; (ii) its contribution to the government's national strategic objectives; (iii) its contribution to the goals established in governmental agreements (*compromisos de gobierno*), 34 of which are under CONAGUA's purview; and (iv) whether it is part of a special program such as the National Program for the Prevention of Adverse Hydraulic Events (*Programa Nacional de Prevención contra Contingencias Hidráulicas*), the National Program against Drought (*Programa Nacional Contra la Sequía*), and the National Infrastructure Program (*Programa Nacional de Infraestructura*). The government has made exceptions to these rules in certain atypical cases. Recently

⁸ These activities are classified in two categories: Chapter 6000 for infrastructure investments and Chapter 5000 for acquisitions and maintenance.

⁹ Guidelines for the Preparation and Presentation of Cost-Benefit Analysis for Investment Programs and Projects (Lineamientos para la Elaboración y Presentación de los Análisis Costo Beneficio de los Programas y Proyectos de Inversión)

¹⁰ This is stipulated in Article 34 of the Federal Budgeting and Financial Responsibility Law (*Ley Federal de Presupuesto y Responsabilidad Hacendaria*).

CONAGUA introduced an additional layer of prioritization to factor in the typology of the basin, such as areas that suffer from water scarcity or which are critical for sanitation.

24. **Municipalities can propose projects for inclusion in the federal portfolio; however, they must do so through CONAGUA.** Municipalities must show that the project’s construction and execution should be elevated to the federal level and that the project is a priority according to the established criteria. Moreover, proposed projects should include a robust *ex ante* analysis that demonstrates their socioeconomic value. As CONAGUA has limited resources to implement *ex ante* analyses, municipalities are encouraged to finance these studies with their own resources.

Table 10.1: MECAPLAN Priorities, Actions and Programmed Expenditures, 2014-19

Classification	Number of PPIs	Priority	Programmed Budget (MXN millions)
10 agreements with PPIs registered in the investment portfolio and included in the National Infrastructure Plan for 2014 -2018	11	1	41,328
6 agreements with PPIs currently being registered in the investment portfolio and included in the National Infrastructure Plan	18	1	47,814
New and ongoing projects included in the National Infrastructure Plan	16	1 & 2	63,318
Projects being implemented in 2014	240	2	116,029
Other projects in the investment portfolio	126	3	20,963
New projects not yet included in the investment portfolio	1,256	3	273,377
Total	1,667		562,830

Source: CONAGUA’s Planning Document

25. **The annual budget allocation for each PPI is established according to a timetable of actions and goals to be achieved over a defined implementation period and supported by a specific budget allocation.** To be considered for multiannual funding by SHCP, a project should: (i) be registered in the investment portfolio; (ii) have a minimum level of investment consistent with the annual criteria; (iii) have an investment schedule that lasts at least 24 months; (iv) contribute to the objectives of the PND; (v) have a clear regional impact; (vi) be accompanied by a credible action plan; (vii) include provisions in the budget of the implementing agency; (viii) demonstrate that a single multiannual contract is superior to several successive annual contracts; and (ix) present a summary of its components, objectives and expenditures.

ii) Federalized Budgetary Programs

26. **Federalized budgetary programs complement CONAGUA’s programmatic structure.** S, U and N Programs allow for flexibility in terms of investments executed within each fiscal year. Meanwhile, E, M, O, P and G Programs focus resources on monitoring, regulation, supervision and developing the policy framework of the WSS sector (Figure 10.2).

Figure 10.2: CONAGUA 's Programmatic Structure



Source: CONAGUA, 2012

27. **Some capital investments are not classified as K Programs because they are not federal in nature or would not fit the federal prioritization criteria.** Most of these investments are designed, proposed and executed at the subnational level. Although they are inherently local, the federal government has created a system of transfers to finance these decentralized programs. This system includes a signed decentralization and reallocation agreement between the federal government and the implementing authority, which may be a state, a municipality or a designated *organismo operador*. Decentralized programs are based on annual coordination and joint-supervision agreements with the federal government specifying the project's costs, objectives and implementation schedule.

28. **S and U Programs are the primary federalized programs in the WSS sector.** U Programs are flexible subsidies administered by CONAGUA, and their allocation is governed by unpublished rules (*lineamientos*). They can be used for activities other than investment and do not require corresponding funds from the recipient municipality. S Programs finance most annual investments. S Programs are also administered by CONAGUA, but unlike U Programs their operating rules (*normas de operación*) are published each year, and municipalities and states are required to contribute a share of their funding.¹¹ In general, investments funded through S Programs are not subject to cost-benefit evaluations, but rather to the operating rules and/or technical annexes signed between CONAGUA and each local government. S Program funding is awarded annually, and continuous funding cannot be guaranteed over multiple years. Their operating rules mandate that the investment project be completed and operational within the same fiscal year in which funds were allocated. CONAGUA is responsible for ensuring consistency between the disbursement of the subsidy and implementation of the project.

29. **S Programs focus on infrastructure investment, but in some cases their operating rules allow for a percentage of the funds to be dedicated to operation and maintenance costs.**¹² Moreover, CONAGUA can withhold a percentage of the funds to pay for the oversight of the transfer itself and to verify the appropriate use of the funds. As a result, a modest fraction of the investment budget for S Programs actually finances current expenditures.

¹¹ The government has made exceptions to this rule in certain atypical cases.

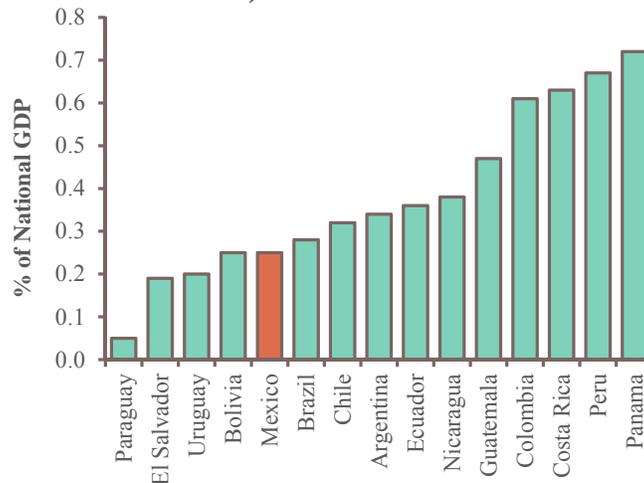
¹² For instance, PROSANEAR includes 2 percent for the capacitation and startup of treatment plants.

LEVEL, TRENDS AND COMPOSITION OF WSS SPENDING

i) Overall Investment¹³

30. **Mexico's WSS sector is financed by budgetary and non-budgetary federal resources, state and local funds, and private investment.** Some investments are financed by local resources pledged to secure matching federal funding. Mexico's total investment in the WSS sector is modest compared with other Latin American and OECD countries. Countries with similar or higher coverage levels such as Brazil, Costa Rica, Argentina and Chile all invest more, in relative terms, and regional leaders such as Costa Rica invest up to twice as much.

Figure 10.3. WSS Sector Investment, Mexico and Latin American Comparators, 2013



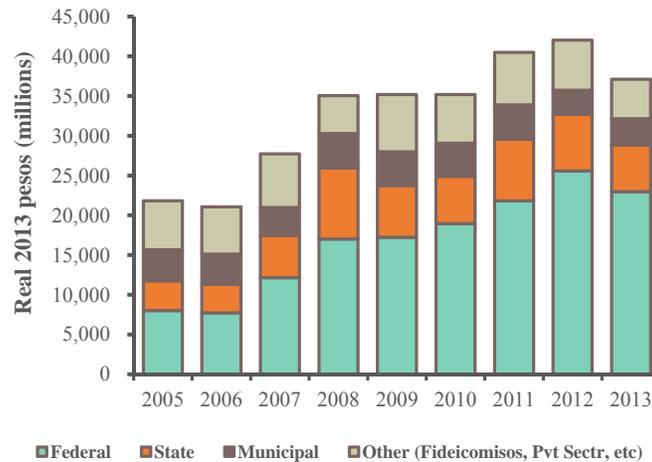
Source: CEPAL, 2014.

31. **Mexico's total investment in the WSS sector has increased steadily over the past decade.** WSS expenditures rose from about MXN 28 billion, or 0.17 percent of GDP, in 2002 to MXN 37 billion, or 0.25 percent of GDP, in 2013—a 70 percent increase in real terms.¹⁴ The biggest single-year expansion was between 2007 and 2008. A 12 percent year-on-year decrease in 2013 was the only major exception to the medium-term trend (Figure 10.4).

¹³ Most of the data in this section come from CONAGUA's annual Situation of the Potable Water, Sewerage and Sanitation Sector (*Situación del Sector Agua Potable, Drenaje y Saneamiento*).

¹⁴ All figures in this chapter are expressed in real 2013 pesos unless otherwise specified.

Figure 10.4: Total WSS Sector Investment by Funding Source, 2005-2013

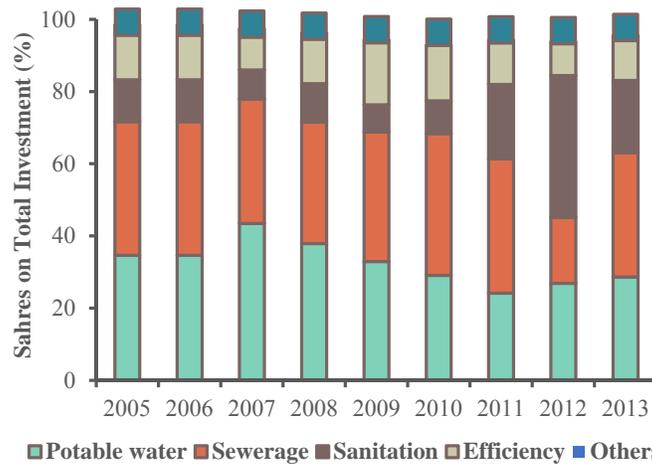


Source: Situación del Subsector Agua Potable, Drenaje y Saneamiento, 2005 to 2013.

32. **Since 2010 budgetary federal resources have accounted for more than half of total WSS investment and represented the driving force behind the larger trend in investment.** Budgetary federal investment primarily includes SEMARNAT funding included under *Ramo* 16. Between 2005 and 2013 federal investment almost tripled in real terms, rising from MXN 8 billion to MXN 23 billion. Meanwhile, its share in total sectoral investment expanded from 37 percent to 62 percent. Since 2007 spending on large-scale strategic projects (“megaprojects”) has significantly increased as a share of CONAGUA’s budget.

33. **Potable water and drainage systems have accounted for about 60-70 percent of all WSS investments since 2005.** Sanitation’s share has remained broadly stable at 8-12 percent until 2011, when major projects including sewage and wastewater treatment plants in Guadalajara, Ciudad Juarez and Atotonilco caused its contribution to total WSS investment to increase dramatically. Investment in efficiency improvements peaked in 2009 and decreased after 2011. Over time, resources have gradually shifted away from water supply projects, which represented 29 percent of total investment in 2013, toward wastewater treatment and sanitation, which represented 20 percent.

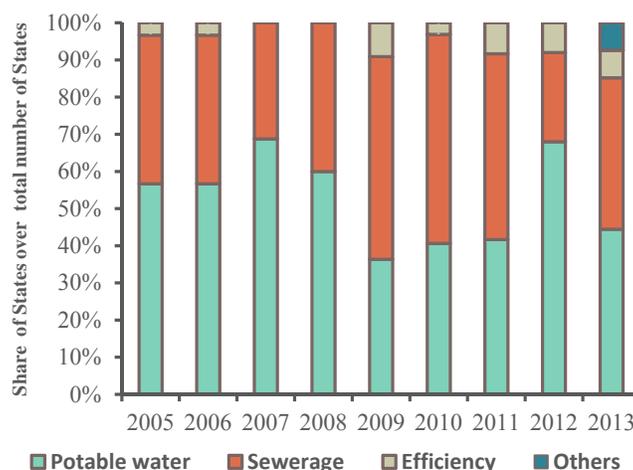
Figure 10.5: Composition of Investment in the WSS Sector, 2005-2013



Source: Situación del Subsector Agua Potable, Drenaje y Saneamiento, 2013.

34. **A state-level analysis confirms the shift in focus away from investments in water supply.** Between 2005 and 2008 more than half of all Mexican states¹⁵ spent the bulk of their WSS investment budget on water-supply projects. Between 2009 and 2010, however, many states prioritized drainage, and after 2011 a significant portion of states devoted the majority of their WSS investment to sanitation and wastewater treatment (Figure 10.6). In 2007, 22 states spent most of their WSS investment budget on water-supply projects, 10 prioritized drainage, and 1 focused on sanitation. In 2013, however, just 12 spent the bulk of their resources on water supply, 11 on drainage, 6 on sanitation, 2 on efficiency improvements, and 2 on research projects and supervision. S Programs often finance efficiency improvements, such as capital subsidies for installing water meters. The government has also incentivized efficiency improvements by lowering the amount of local funding required to qualify for S Program funds relative to other project types.

Figure 10.6: Number and Percentage of States Prioritizing Each WSS Subsector



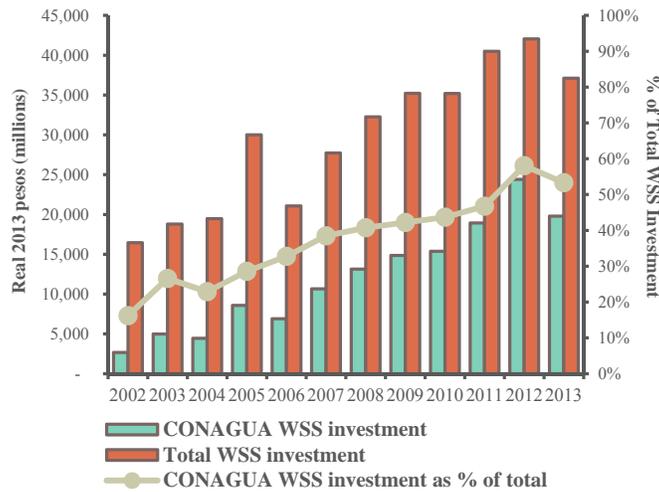
Source: Situación del Subsector Agua Potable, Drenaje y Saneamiento, 2013.

35. **Most budgetary federal WSS spending flows through CONAGUA.** Capital investment by CONAGUA represents about 50 percent of the overall WSS investment budget (Figure 10.7). Other sources of direct and indirect investment include *Ramo 23*, *Ramo 33*, *Ramo 28* as well as projects financed by SEDESOL, CDI, SEDATU and *fideicomisos*.¹⁶ CONAGUA's share in capital investment has doubled in the last 10 years. CONAGUA's share in total WSS investments rose from about 25 percent in 2004 to a peak of 60 percent in 2012. On average, CONAGUA has represented 50 percent of total WSS investment since 2007.

¹⁵ This includes the Federal District.

¹⁶ Most the budgetary investment on WSS is channeled through SEMARNAT or *Ramo 16*.

Figure 10.7: CONAGUA Investment and Total WSS Investment (millions of real 2013 pesos and % of total WSS investment)

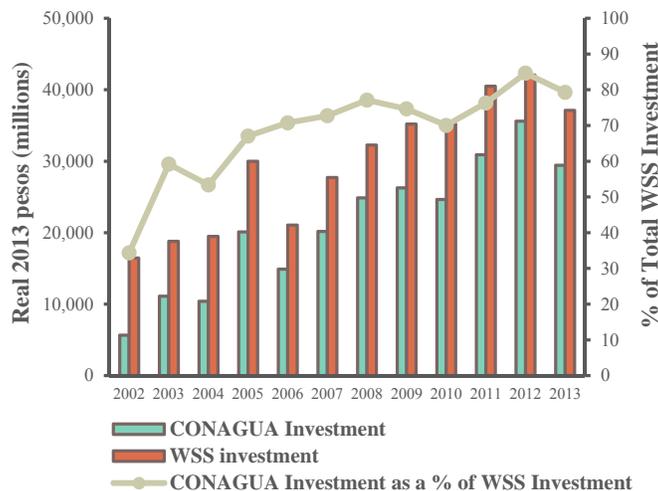


Source: Situación del Subsector Agua Potable, Drenaje y Saneamiento, 2013.

Note: This figure only refers to CONAGUA investment funded by the federal government or CONAGUA’s own resources. It excludes pari-passus and fideicomisos.

36. **The importance of CONAGUA’s financing role goes beyond the investment it directly executes.** It also manages U and S Programs, which incentivize complementary investments and unlock matching funds. When co-financed investments are included, CONAGUA’s share in total WSS investment increases to about 80 percent. Moreover, this figure has increased 1.5 times since 2004, rising from just over 53 percent in 2004 to 80 percent in 2013 (Figure 10.8).

Figure 10.8: CONAGUA-Related Investment as a Share of Total WSS Sector Investment, 2002-2013



Source: Situación del Subsector Agua Potable, Drenaje y Saneamiento, 2013.

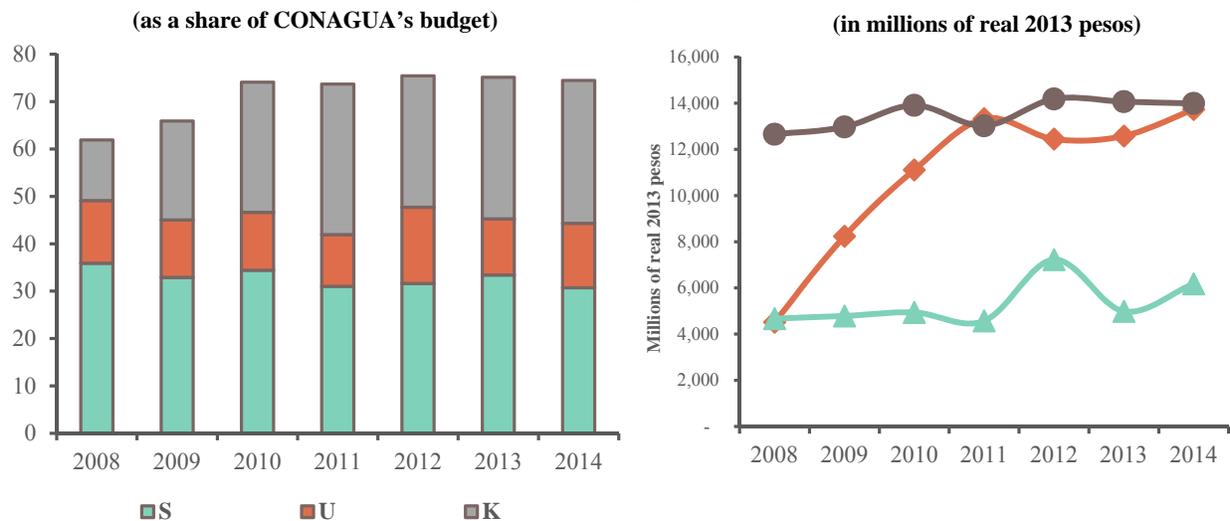
Note: This figure refers to WSS investment by the federal government’s budget, states, municipalities and fideicomisos.

ii) Spending on Programs K, U, and S¹⁷

37. **Between 2008 and 2014 K, S and U Programs, which together comprise the bulk of CONAGUA investments, represented between 62 and 75 percent of CONAGUA’s executed budget.** However, the relative importance of each program type has changed over time. Spending on K Programs has increased steadily in real terms, while real spending on S and U Programs remained broadly constant. The increasing share of K Programs in total WSS investment has important implications for expenditure efficiency. S and U Programs are annual subsidy transfers that fund investments executed by state and municipal governments, often with very limited analysis and oversight. K Programs are PPIs executed by CONAGUA on behalf of the federal government, and are subject to significant monitoring and quality control by SHCP.

38. **Prior to 2014 S and U Programs consistently represented about 30 percent and between 11 and 14 percent of CONAGUA’s budget, respectively.** Real spending on S and U Programs remained broadly stable at MXN 12 billion and between MXN 5 and 7 billion, respectively (Figure 10.9). However, between 2009 and 2014 spending on K Programs increased from 13 percent to 30 percent of CONAGUA’s budget. In real terms K Program expenditures more than tripled from the equivalent of MXN 4.5 billion to MXN 13.7 billion.

Figure 10.9: Spending on K, S, and U Programs in Real Terms and as a Share of CONAGUA’s Budget



Source: Federal Expenditure Budget (*Presupuesto de Egresos de la Federación*), 2008- 2015.

Note: Figures reflect all CONAGUA subsectors, including WSS. Resources for WSS represent an estimated 40-60 percent of CONAGUA’s budget.

Note: All annual data are based on the executed budget, except those for 2015, which are based on the approved budget.

39. **The executed budget reveals how the composition of federal financing mechanisms for WSS investments has shifted in favor of K Programs, while spending on S and U Programs has remained broadly unchanged in real terms.** This trend has reinforced CONAGUA’s key role not only in funding but also in executing WSS investments. The amount allocated to annual subsidies via the federalized S and U Programs has continued to represent about 30-40 percent of CONAGUA’s budget despite proactive attempts by the SHCP to reduce the amount of subsidies channeled through U Programs, which are subject

¹⁷ Most of the data included in this section comes from the Federal Expenditure Budget (*Presupuesto de Egresos de la Federación*) 2008-2015

to less stringent controls.¹⁸ Meanwhile, S Programs are the most stable and predictable component of CONAGUA's budget, even though the SHCP clearly defines them as temporary interventions designed to subsidize single-year investments.

40. **The approved and proposed budgets reveal the SHCP's consistent efforts to reduce allocations to U Programs and further increase allocations to K Programs.** Not only is the share of K Programs rising, but the approved 2015 and proposed 2016 budgets both clearly attempt to minimize the use of U Programs, which are governed by unpublished rules. U Programs are the most opaque element of the federal transfer system for WSS, and curtailing their use is critical to enhancing the management of sectoral resources. The approved 2015 budget increases the share of CONAGUA resources allocated to K Programs to 43 percent, while reducing U Programs to just 4 percent. Total spending on K Programs is expected to rise to about MXN 21 billion, almost 5 times its 2008 level in real terms. By contrast, U Program spending would reach a historic low of MXN 1.7 billion, just one-third of its 2008 level. S Programs would continue to represent about 30 percent of CONAGUA's budget, or MXN 14.5 billion. It should be borne in mind that varying execution rates, especially for K and U Programs, may cause actual expenditures to significantly differ from those included in the approved budget.

iii) CONAGUA's Budget Variation

41. **CONAGUA's overall budget-execution rates frequently approach 100 percent, but execution rates vary enormously between budget components.** For example, from 2008-2014 between 10 and 40 percent of the approved budget for K Programs was unspent (Table 10.2). As K Programs are part of the federal investment portfolio they are subject to greater oversight and tend to be linked to more complex multi-year projects. In some cases, under-execution may be due to deficiencies in planning or implementation capacity. There is also anecdotal evidence that SHCP frequently cuts K Programs as part of its in-year adjustments to the fiscal accounts.

42. **U Program spending often differs wildly from the approved budget, and between 2012 and 2014 the executed budget for U Programs exceeded the approved budget by least 250 percent.** This pattern suggests that U Programs are used to expend unspent funds at the end of the budget cycle, including CONAGUA's own resources via the Program for the Reimbursement of Duties on Water Use and Wastewater Discharge (*Programa de Devolución de Derechos*, PRODDER). This function is almost certainly facilitated by the opacity of U Programs rules.

Table 10.2: Percentage Deviation between Approved and Executed Budget

	2008	2009	2010	2011	2012	2013	2014
K	42%	-32%	-12%	-13%	-10%	-19%	-35%
S	-26%	-10%	2%	6%	8%	1%	-1%
U	7522%	2811%	3470%	1829%	211%	235%	257%
CONAGUA	-2%	4%	6%	7%	11%	2%	-5%

Source: Presupuesto de Egresos de la Federación 2008-2014.

43. **The budget-execution rate for S Programs is close to 100 percent.** While one might assume that this is due to the operating rules that govern S Programs, it in fact reflects CONAGUA's flexibility in reallocating funds across municipalities. The proposed calendar for disbursements to municipalities under each program is not made public, though disbursement schedules are included in the technical annexes signed between municipalities and CONAGUA. This gives CONAGUA considerable latitude to shift

¹⁸ This is confirmed by the 2016 budget proposal, which would consolidate, minimize or eliminate U Programs.

resources among municipalities within each fiscal year, and an estimated 70-80 percent of planned disbursements are reallocated in-year. CONAGUA has discretionary authority to adjust allocations both within and across municipalities in order to make the aggregate disbursement at the end of the fiscal year match the original SHCP disbursement schedule, even if the allocations across municipalities and within each municipality are radically different from what the original budget stipulated. This is accomplished through agreements with the Commission for Regulation and Supervision (*Comité de Regulación y Seguimiento*), which involves states and sometimes municipalities. In some cases, these reallocations may be due to unexpected delays in project implementation, but often they reflect weaknesses in the planning capacity of municipalities.

iv) CONAGUA Expenditures on Administration, Monitoring and Feasibility Studies

44. **CONAGUA's total spending on technical monitoring and oversight of the water sector has decreased consistently since 2008.** The share of the CONAGUA budget allocated to these activities has fallen from 5.6 percent to about 1.5 percent, or from MXN 1.98 billion in 2008 to about MXN 725 million in 2015 (Table 10.3). The decline in resources for oversight, feasibility analyses and institutional support is a source of concern for CONAGUA given its critical role in coordinating programs, managing the WSS sector, enforcing water rights, providing technical quality control and ensuring the quality of investment allocations under U and S Programs. While CONAGUA's fundamental responsibility is to preserve the integrity of the national water system and progressively improve the quality and availability of WSS services, recent trends indicate that CONAGUA is shifting its priorities and resources to the execution of major public works at the expense of its traditional responsibilities in the WSS sector.

Table 10.3: CONAGUA Resources Devoted to WSS Sector Administration, Supervision and Analysis

Year	Regulation and supervision		Investment	Budgetary and institutional efficiency	Total
	Sustainable water management	Monitoring and policing regulatory infractions	Feasibility studies	Administrative support	
<i>in millions of real 2013 pesos</i>					
2008	141.54	-	46.58	1,788.73	1,976.85
2009	178.32	-	58.34	744.32	980.98
2010	79.05	32.88	105.81	576.11	793.85
2011	124.27	58.57	104.58	403.84	691.27
2012	99.91	66.69	50.38	315.10	532.08
2013	50.88	46.49	62.24	347.21	506.82
2014	106.63	171.05	134.82	327.42	739.92
2015	82.85	47.17	89.30	504.54	723.87
<i>as a share of the CONAGUA's budget</i>					
2008	0.4%	0.0%	0.1%	5.1%	5.6%
2009	0.5%	0.0%	0.1%	1.9%	2.5%
2010	0.2%	0.1%	0.3%	1.4%	2.0%
2011	0.3%	0.1%	0.2%	1.0%	1.6%
2012	0.2%	0.1%	0.1%	0.7%	1.2%
2013	0.1%	0.1%	0.1%	0.8%	1.2%
2014	0.2%	0.4%	0.3%	0.7%	1.6%
2015	0.2%	0.1%	0.2%	1.1%	1.5%

Source: Presupuesto de Egresos de la Federación 2008-2015

EXPENDITURE EFFICIENCY IN THE WSS SECTOR

45. **The share of investment in the WSS sector financed or co-financed by CONAGUA has tripled in the last 15 years to 80 percent, and the efficiency of CONAGUA expenditures is an increasingly**

vital issue. The centralization of resources and responsibilities in CONAGUA and the essential role of federal transfers in financing WSS investment greatly influence expenditure efficiency. In this context, reforms in three key areas will be essential to improve expenditure efficiency in the WSS sector. The first area is the relationship between the annual transfers defined in the Budget Law and implemented by SHCP, and the multiannual investments and project lifecycles that they finance. The second is CONAGUA's processes for allocating and spending federal resources in tandem with subnational governments. The third is value for money in WSS investment defined in terms of service coverage and investment unit costs.

Multiannual Investment Cycles and Annual Financing Cycles

46. **Transfers to subnational governments through S Programs cannot—in principle—be used to finance multiannual projects.** However, many if not most WSS projects are multiannual in nature, and as a result states and municipalities have formed a tacit agreement with CONAGUA to use the promise of future S Program financing to simulate a multiannual investment cycle. Municipal governments and CONAGUA define a multi-year investment project using “investment stages,” with each individual stage financed by a separate annual S Program transfer. The Budget Law cannot guarantee future S Program allocations, which in theory creates a risk that financing may cease before a project is completed. In practice, however, S Program allocations have been CONAGUA's most stable fiscal transfer mechanism of the last decade.

47. **The informal system for securing multi-year CONAGUA financing has negative implications for expenditure efficiency.** It goes against international best practices, in which financing flows should match the investment-flow profile of the project in order to ensure stable and predictable financing, and it also contradicts the provisions of Mexico's Public Work Law. The law states that a project must be tendered only once—not in multiple stages—and that annual capital subsidies are limited to the annual budget cycle, not to the implementation schedules of the projects they finance. In principle, the operating rules for S Programs rule out investment projects that would require more than a year to implement, but in practice no operating rule can eliminate the necessity of multiannual investments at the subnational level or diminish the importance of federal financing.

48. **The use of successive S Program transfers to finance multi-year projects is an open secret in Mexico's WSS sector.** As much as 30-40 percent of CONAGUA resources may finance multiannual projects managed under this informal system. These projects are not registered in SHCP's investment portfolio because municipalities are the executing entities. CONAGUA, not SHCP, monitors the execution and completion of investments and prioritizes works in progress (“*obras de continuidad*”) when allocating funds for subsequent years. Consequently, these projects are not subject to the rigorous feasibility and socioeconomic analysis required for multiannual SHCP projects. Moreover, the informal nature of financing arrangements creates uncertainty, as future financing is effectively dependent on resources that have not yet been allocated. This leaves projects vulnerable to shifting municipal political priorities, both to complete the initial investment and to finance the operation of the project.

49. **Binding fiscal transfers to the annual budget cycle rather than the implementation cycle for the investments they finance negatively affects the quality of municipal WSS projects.** Under this system, municipalities have strong incentives to focus on smaller projects that can be completed in a single year, regardless of whether those projects best suit their needs. The system also encourages municipalities to focus on initial capital costs rather long-term recurrent costs. Consequently, project design typically does not account for operations and maintenance over the lifecycle of the asset, or the ability (and willingness) of municipalities to finance these costs. Moreover, an excessive focus on capital investment can heighten the risk of corruption during the construction phase, leading to the systematic overestimation of construction costs. Financing multi-year projects through a series of annual transfers also greatly increases the chances that projects will be delayed, remain unfinished, or overspend their budgets due to funding uncertainty and

a potential stop-start construction pattern. Finally, municipalities and states may engage in a kind of rent-seeking behavior by accessing both CONAGUA and parallel non-CONAGUA federal financing sources for the same project, creating perverse incentives and significantly increasing transaction costs for both the municipality and the federal government.¹⁹

Box 10.1: Perverse Incentives in the WSS Sector, the Case of Water Treatment Plants

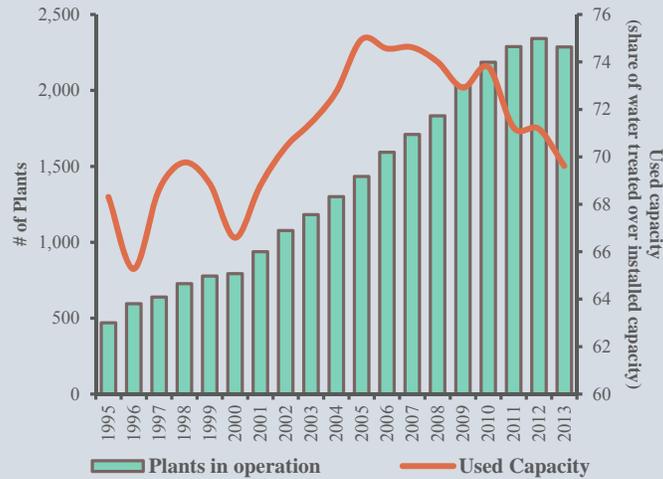
The substantive and policy focus of annual subsidies reflect prevailing political and social priorities. From 2002-2012 PROMAGUA's top priority was financing water treatment plants. The number of water treatment plants more than doubled during this period, while total installed capacity and the amount of water treated each increased by about 75 percent.

However, the sustained emphasis on subsidizing building of treatment plants has led to a number of unintended consequences:

- (i) Plants frequently operate below capacity because of lack of demand for treated water or a lack of sewer pipes. As a consequence, many plants are unable to recuperate operating costs, and municipalities often lack the financial resources to cover operational costs. In some municipalities it is often cheaper to leave a plant unused than to pay the very high electrical costs of operating it.
- (i) There is an apparent oversupply of treatment capacity at the municipal level. The adequacy of supply is always subject to debate, since infrastructure assets are planned with lifecycles of 20-40 years or more. However, in Mexico a large number of municipalities (17 out of 33) operate their plants below 50 percent of capacity, and 8 municipalities operate below 30 percent, strongly indicating a systemic oversupply and/or underutilization.
- (ii) There is underinvestment in sewers which feed the treatment plants. This normally occurs because municipalities do not have the financial resources to pay for additional sewer pipes, and federal programs do not prioritize these investments. For example, PROMAGUA allocates significantly more resources for treatment plants than for sewers. Moreover, when a municipality acquires the resources to install new sewer pipes, the treatment plants often need to be refitted to match the new pipe network, which creates additional capital costs. Financing aqueducts and managerial improvement programs have only recently been included as priority activities to receive subsidies.
- (iii) The lack of an effective wastewater strategy leads to inefficiency. Due to how water rights are defined, it is often cheaper for the private sector to use first-use water than to acquire treated wastewater for industrial use and irrigation. In addition, the lack of institutional continuity makes it very difficult to reach long-term agreements with the private sector for reclaimed water. As a consequence, the demand for treated wastewater is significantly diminished.
- (iv) There are no sanctions for municipalities whose plants operate below capacity. Many existing plants could serve several municipalities at once, yet programs such as PROMAGUA are very rarely inter-municipal, because the process for assigning and transferring funds is based on individual municipal petitions. Efforts have been made to shift service provision to the metropolitan, rather than municipal, level. Though this might solve some operational efficiency problems, it would also add another level of institutional complexity.

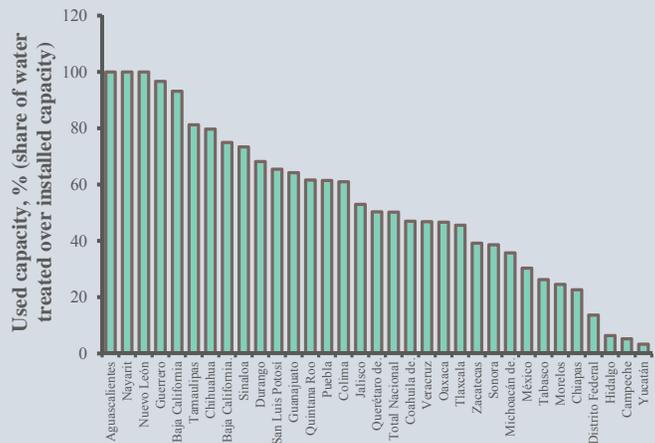
¹⁹ Other federalized programs and subsidies are channeled through SEDESOL, CDI and SEDATU, as well as loans, credits and trust funds (*Fondo Metropolitano*, FONAGRI).

Figure 10.10: Total Number of Treatment Plants and Their Used Capacity, 1995-2013



Source: World Bank staff calculations based on data from CONAGUA, 2013

Figure 10.11: Water Treatment Capacity Utilization by State, 2013



Source: World Bank staff calculations based on data from CONAGUA, 2013

Within-Year Budget Execution and Municipal Planning

50. The budget ceilings of federalized programs to be executed by municipalities are communicated to CONAGUA in January along with a clear disbursement schedule (*calendarizado*). Between January and March resources are not disbursed due to the planning and programming issues discussed above. The bulk of disbursements occur from April to November, and in the first weeks of November the financial year begins drawing to a close.

51. However, the execution of municipal projects is often delayed by planning, synchronization and predictability issues. Limited municipal planning capacity and the lack of a portfolio of pre-screened projects with pre-feasibility analyses slow project execution (Box 10.2). Meanwhile, a reliance on matching federal funds causes synchronization issues. Municipalities prefer not to invest in land, the acquisition of rights of way, environmental impact studies, or even project execution until they are certain that they will

receive matching funds, which can result in misalignment between the planning and implementation phases. Finally, operating rules are issued annually and are prone to change from one year to the next, creating uncertainty and leading to delays in project planning.

52. **To compensate for project preparation and execution delays, states and municipalities transfer resources unofficially, committing finances in December with disbursements scheduled for March of the following year.** This creates a potential auditing problem for subnational governments, since they report projects as completed when they are not yet fully operational. Moreover, due to routine delays a substantial portion of project construction typically occurs during the rainy season, which increases construction costs and risks, often resulting in further delays.

Box 10.2: Poor Subnational Planning in the WSS Sector

Much of the project preparation process undertaken by states and municipalities, as well as technical validation by CONAGUA, occurs during the year in which the budget is executed. An estimated 30 percent of states have not completed their technical evaluations by the end of January, and 10 percent of the states continue technical discussion with CONAGUA in February. Programmatic operating rules demand that all transaction and permit documents be submitted before matching federal funds are released, yet subnational authorities often do not initiate the formal transactional process until they have some guarantee that resources will be allocated. Moreover, performing fieldwork and technical analyses is a costly and administratively complex activity, which some municipalities and states are not willing to pursue unless they already have assurances that the corresponding funds will be allocated, largely defeating the purpose of the technical validation process.

On average, the signing of the technical annexes (*Anexos de Ejecución y Técnicos*) that initiates the tender process is incomplete in 60 percent of all states by the end of February and incomplete in 40 percent of states by the end of March, meaning that 40 percent of states are still not ready to request bids in April. Ensuring that the technical preparation of projects is completed in the previous year and creating a pool of pre-selected priority projects ready to be financed would greatly accelerate the process and enhance its integrity.

Table 10.4: The Preparation and Execution of S Programs

	Year 0		Year 1				
	Nov	Dec	Jan	Feb	Mar	Apr	May
<i>% of states that have completed each step in the financing cycle</i>							
Budget Approved	100%						
Investment Portfolio Negotiated			80%	100%			
Technical File Cleared			70%	90%	100%		
Technical and Execution File Signed				40%	60%	85%	100%
Tender Initiated				40%	60%	85%	100%
Previous Cycle Completed Closed			80-90%	100%			

Moreover, the states and municipalities with the most limited technical capacity are also frequently the poorest and most in need of improved WSS infrastructure. It is very difficult for subnational governments with modest administrative resources to prepare technical files at the level of quality required to unlock federal funds. To mitigate this unintended bias CONAGUA, through its local directorates and with the assistance of the State Water Commissions, involves itself directly in the process of preparing the technical annexes. Moreover, CONAGUA can assign certain resources directly to municipalities most in need.²⁰ These measures help ensure that the wealthiest, most technically adept municipalities do not systematically outcompete their poorer, lower-capacity counterparts. However, they should be supplemented by efforts to build local capacity or expand CONAGUA’s institutional resources to support technical preparation at the municipal level.

²⁰ CONAGUA can assign public works and execute them directly when “it establishes the need or convenience of direct action to solve specific problems or make sure a specific goal, priority or commitment fixed at the federal level is attained” (*Reglas de Operación 2015, Diario Oficial de la Federación*, December 27, 2014)

Finally, the signing of the technical annexes requires municipalities to demonstrate that they have sufficient funds to match the allocation of federal subsidies. For many poor municipalities, guaranteeing the availability of local funds presents a significant challenge.

Source: World Bank staff analysis based on interviews with officials in June and October 2015

53. **The delegation of budget-execution responsibilities included in the operating rules leaves CONAGUA with considerable latitude to shift resources within the fiscal year.** CONAGUA is tasked with ensuring that WSS resources are spent according to the SHCP disbursement schedule. In practice, this vests CONAGUA with broad discretion to shift resources within a given budget cycle provided that the aggregate disbursements match the original SHCP schedule. An estimated 70-80 percent of S Program disbursement schedules are altered in-year. CONAGUA has discretionary authority to adjust allocations both within and across municipalities. Allocations are adjusted through agreements with the Commission for Regulation and Supervision (*Comité de Regulación y Seguimiento*), with the participation of state authorities and sometimes municipalities. If the process for allocating S Program funds were governed by clear, fully disclosed principles, the discretionary transfer of resources could still allow for an important degree of flexibility to manage unexpected disruptions in the municipal-level disbursement schedule. However, under the current informal system the discretionary transfer of resources diminishes the transparency of resource allocation and heightens the risk of undue influence.

54. **The general criteria for S Program allocations are full of exceptions.** In order to compete for S Program funding, municipalities and states need to fulfil certain general conditions. These include a signed WSS decentralization agreement between the state and federal governments, which also defines the content and scope of municipal programs. States and municipalities must also demonstrate that they have the necessary financial resources to unlock matching federal funds. These resources must not be pledged to any other ongoing or parallel program. Projects must have completed CONAGUA's technical validation process, and a signed technical agreement is required by March of the year in which the funds are to be distributed. Municipalities must produce reports on the execution of funds and, if applicable, reimburse the federal government for unutilized resources for previous projects. They must also present an action plan for approval by the State Planning Committee or equivalent entity and a budget based on the official catalogue of unit costs published by the Mexican Chamber of Construction. Municipalities with more than 2,500 people must have paid for their respective water and wastewater discharge rights. Treatment plants that have received subsidies must be treating at least 90 percent of wastewater collected at levels above discharge-quality standards. Otherwise, any additional resources allocated to that municipality should go to rehabilitating and improving its wastewater plants. While subnational governments are technically not allowed to use the same resources to secure matching federal funds under multiple programs, states frequently propose the same project backed by the same resources to more than one program. Municipalities are expected to fulfil all documentation requirements for previous expenditures before receiving new funds, but delays in preparing the documents lead to routine exceptions. Technical annexes must be signed by March in order to trigger disbursements in the same fiscal year, yet in practice the signing of the technical annexes may take place as late as May. Municipalities and utilities should ensure that they are current on all applicable water-rights payments before requesting new funds, but for many this requirement presents an insurmountable obstacle due to inadequate tax revenues or water tariffs. Finally, municipalities must meet certain operational efficiency and service quality standards for subsidized assets built in previous years, yet municipalities regularly disregard this rule or distort quality measurement.

55. **In addition to the general criteria, S Programs are governed by operating rules defined annually by CONAGUA.**²¹ The rules seek to reduce discretionary decision-making by clearly defining the procedural steps and selection criteria for municipalities and *organismos operadores*. The publication of

²¹ SHCP's participation in S Programs is confined to issuing a budget authorization under Article 77 of the Budget Law. All technical specifications are the purview of CONAGUA.

these rules is intended to launch the project preparation, selection and validation process at least 3-6 months before the budget process begins.

56. **The operating rules for federalized programs have become so complicated in their provisions and confusing in their application that their allocation is effectively discretionary.** Several federal programs have similar scopes and objectives, but different rules and conditions. For example, the Drinking Water and Wastewater in Urban Areas (*Agua Potable, Alcantarillado y Saneamiento en Zonas Urbanas*, APAZU) program, the Water Utilities Efficiency Improvement Project (*Programa de Mejoramiento de Eficiencias del Sector de Agua*, PROME), and PRODDER finance the same type of activities, and all target localities with populations of between 2,500 and 5,000, but their eligibility requirements and financing amounts are different. Similarly, PROMAGUA and PROME both finance activities related to results-based management, but PROMAGUA relies on public-private partnerships, while PROME provides a direct subsidy. Overlapping program objectives create distortions and perverse incentives.

57. **Federal programs do not include sufficient preventative measures to prevent duplicate funding.** States and municipalities can use federal funds to secure matching federal funds from other programs as long as each program permits it. This means that certain projects may be completely financed by federal resources, even if they ostensibly require local counterpart funding. For example, *Fideicomiso 1928* is funded by federal water-rights payments in the Valle de México; it can serve as a counterpart for APAZU, PROME, the Drinking Water and Sanitation Sustainability Program (*Programa para la Sostenibilidad de los Servicios de Agua Potable y Saneamiento*, PROSSAPYS) and the Wastewater Treatment Program (*Programa de Tratamiento de Aguas Residuales*, PROTAR). The use of federal funds to secure other federal funds can create the illusion of local financial participation, but it does not promote the self-sufficiency that is the objective of local co-financing. Additionally, budgetary allocations by the *fideicomiso* are not subject to legislative review or external oversight.

58. **Some federal programs have excessively discretionary eligibility criteria.** As a result, certain utilities receive far more resources than others. PROME favors utilities that have already received subsidies in previous years, while some federal programs privilege investment in certain geographic areas without providing a clear rationale for doing so. Moreover, political influence can cause some federal entities to receive preferential treatment, exacerbating inequalities in regional development. For example, PROSSAPYS and the Clean Water Program (*Programa de Agua Limpia*) have allocated much larger subsidies to localities in Chiapas, Guerrero, Oaxaca, Tabasco, and Veracruz than in the rest of the country.

59. **Federal programs can encourage local utilities to rely on subsidies and transfers rather than own-source revenues.** For example, PRODDER allocates resources according to supply scarcity and local revenue shortfalls rather than efficiency criteria, which can create a perverse incentive for utilities to implement inadequate tariffs. By fully subsidizing the cost of water rights, PRODDER prevents the internalization of negative externalities associated with common-pool resources and contributes to overexploitation.

60. **SHCP recently consolidated its programmatic structure for 2016, reducing the number of programs by 26 percent.** The new structure is designed to increase budget efficiency and more effectively target social, economic and infrastructure priorities. The expenditure reforms (known among officials as the “reengineering of expenses”) introduced in the proposed 2016 Budget Law Project (*Proyecto de Ley de Presupuesto*) cut the number of CONAGUA programs from 13 to 6, and their operating rules are in the process of being revised and reformulated.

Table 10.5: The Consolidation of CONAGUA Programs

Current Programs (2015)	Consolidated Programs (2016)
S047 Programa de Agua Limpia S074 Programa de Agua Potable, alcantarillado y saneamiento S075 Programa para la Construcción y Rehabilitación de Sistemas de Agua Potable y Saneamiento en Zonas Rurales U037 Infraestructura Hídrica S218 Programa de tratamiento de Aguas Residuales U031 Incentivos para la operación de plantas de tratamiento de aguas residuales K007 Proyectos de infraestructura económica de agua potable y alcantarillado K131 Túnel Emisor de Oriente y Planta de Tratamiento Atotonilco U001 Programa de Devolución de Derechos U008 Saneamiento de Aguas Residuales E001 Operación y mantenimiento del Sistema Cutzamala E002 Operación y mantenimiento del sistema de pozos de abastecimiento del Valle de Mexico E008 Conservación y operación de acueductos Uspanapa-La Cangrejera	S074 Programa de Agua Potable, alcantarillado y saneamiento S218 Tratamiento de Aguas Residuales K007 Infraestructura de agua potable y saneamiento U001 Programa de Devolución de Derechos U008 Saneamiento de Aguas Residuales E001 Operación y mantenimiento de infraestructura hídrica

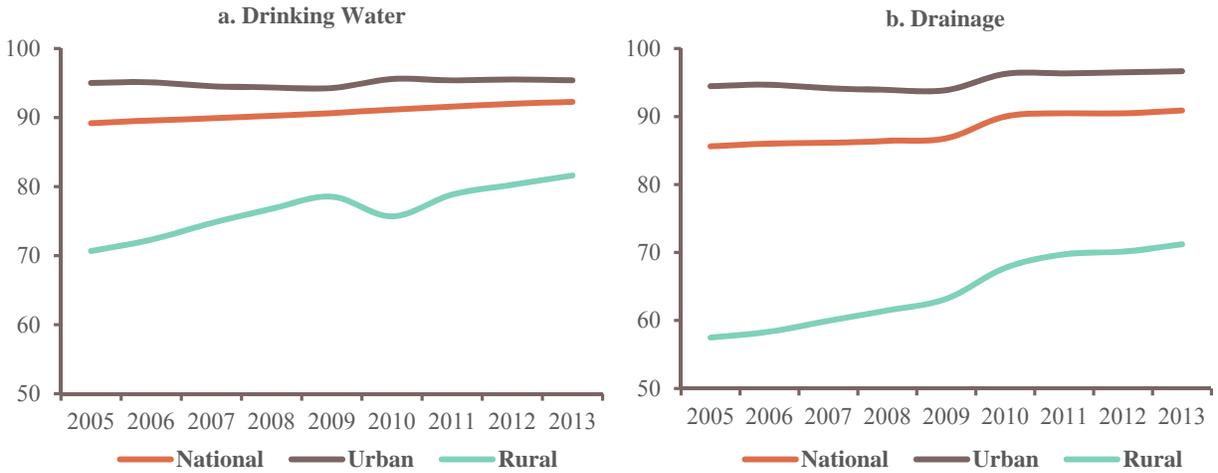
Source: 2016 Budget Law Project

61. **SHCP’s efforts to consolidate the fragmented structure of WSS programs is a positive step, but there are few issues that merit closer examination.** Consolidating programs could inadvertently shift resources toward more expedient objectives at the expense of identified service gaps. Moreover, reducing the number of programs will not necessarily increase expenditure efficiency if numerous subprograms are created. Moreover, different approaches such as results-based contracting and financing, multiannual budgeting, allocations based on annualized costs over the life of the asset, and allocation incentives based on verifiable operating improvements should also be considered. Efforts to improve monitoring and evaluation may be hampered by the aggregation of indicators that may result when programs with different objectives and rationales are consolidated. Similarly, the consolidation of budgets through internal CONAGUA procedures may be opaque to municipalities and other stakeholders, and in-year modifications could have further negative implications for transparency.

Value for Money in WSS Expenditures

62. **In the last 10 years, Mexico has expanded WSS service coverage, especially in rural areas.** In 2013 national coverage rates for drinking water and drainage reached 92 percent and 91 percent, respectively. Meanwhile, rural coverage rates rose from 70 to 82 percent for drinking water and from 57 to 71 percent for drainage.

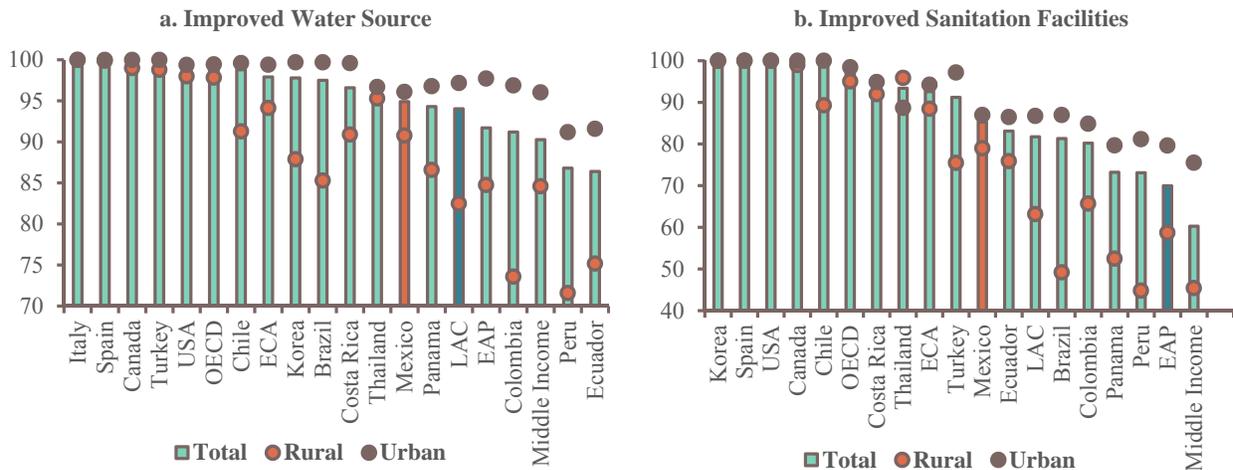
Figure 10.12: Coverage Rates for Drinking Water and Drainage (% of population)



Source: Situación del Subsector Agua Potable, Drenaje y Saneamiento, 2005 to 2013.

63. While access to WSS services in Mexico is in line with regional standards, Mexico’s coverage indicators lag behind those of other OECD countries as well as upper-middle-income countries outside of Latin America.²² This is especially true for sanitation (Figure 10.13). Unlike other OECD countries, Mexico has not yet reached the universal access rates common in Europe and North America. Though substantial, Mexico’s urban-rural access gap is relatively narrow by the standards of comparable countries. Despite recent improvements Mexico has urban-rural coverage gaps of 5 percentage points and 8 percentage points for improved water and improved sanitation, respectively.

Figure 10.13: Access to Improved Water and Sanitation in Mexico and Selected Comparators, 2012 (% of population)



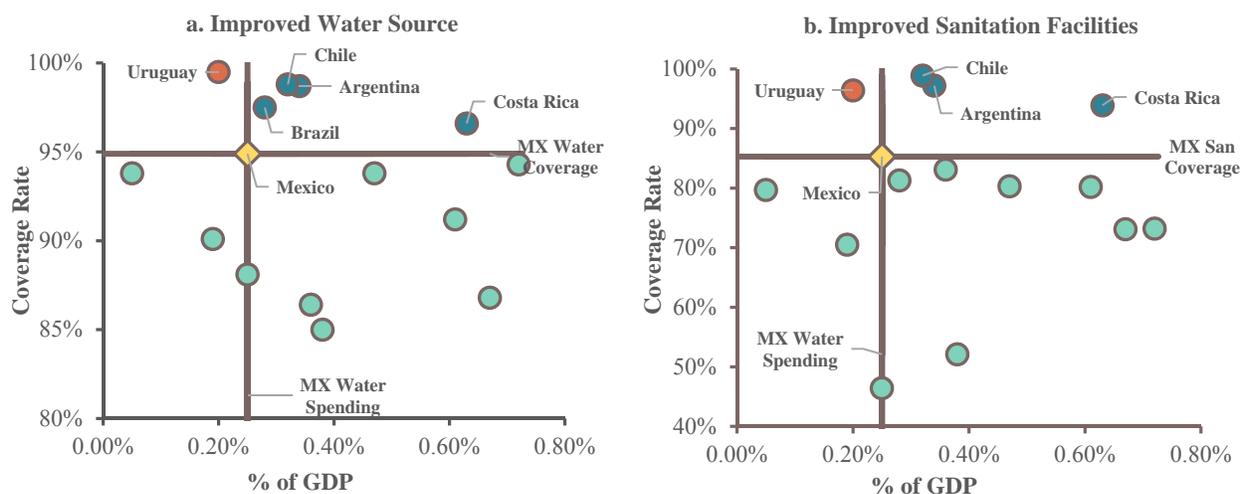
Source: World Development Indicators.

64. The Economic Commission for Latin America and the Caribbean (*Comisión Económica para América Latina y el Caribe*, CEPAL) recently published estimates of WSS spending for 15 Latin

²² The WDI measure of access to “improved sanitation facilities” includes access to “flush/pour flush (piped sewer system, septic tank, pit latrine), ventilated improved pit (VIP) latrine, pit latrine with slab, and composting toilet.” Due to differences in methodologies the WDI figure for 2012 is 85 percent, while the CONAGUA figure is 90.5 percent

American countries between 1980 and 2012.²³ According to these data Mexico spends somewhat less than other Latin American countries with similar or slightly higher coverage rates. For example, Mexico spent an average of 0.18 percent of GDP on the WSS sector, while Chile spent an average of 0.36 percent, Argentina 0.25 percent, and Brazil 0.23 percent. Costa Rica and Uruguay have higher rates of coverage but spent less, on average, than Mexico.²⁴ The sanitation data reveal a different pattern, and three of the four countries with higher coverage rates than Mexico spent more in 2012 (**Error! Reference source not found.**). Two of these countries, Chile and Argentina, also spent more on average between 1990 and 2012. These figures suggest that Mexico may need to increase the efficiency of water sector spending and the amount of sanitation spending (relative to GDP) in order to achieve CONAGUA's universal coverage goals.²⁵

Figure 10.14: Coverage Rates by Economic Size, Mexico and Comparator Countries



Source: CEPAL, 2014. World Development Indicators.

65. **One key measure of expenditure efficiency is the average unit cost of increasing or maintaining coverage levels.** The cost of each additional connection often increases exponentially when approaching universal coverage, as the last disconnected consumers tend to be located in especially remote or isolated areas. Marginal costs of additional connections are also influenced by each country's geographic and demographic characteristics (Figure 10.15). For example, Chile is so close to universal access and has such a challenging geography that the unit cost of new connections is extremely high. In Panama, the point at which marginal costs for an additional connection will increase exponentially is around 95 percent coverage, while for Colombia and El Salvador this threshold is around 90 percent.

66. **Mexico appears to be an outlier to these trends.** Historically, Mexico's coverage and investment rates for both water and sanitation have increased gradually and do not reveal a pattern of increasing marginal costs. This may suggest that efficiency improvements can increase coverage without requiring large increases in spending. However, it could also be the result of data limitations, inconsistencies in accounting or methodological deficiencies in the official statistics. These caveats notwithstanding,

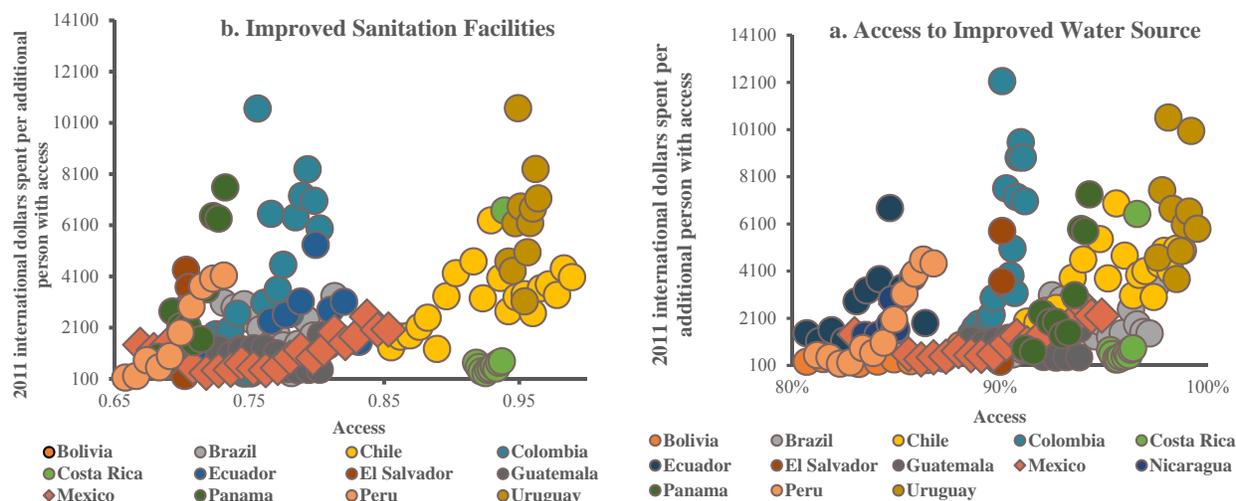
²³ CEPAL, 2014. The CEPAL data do not separate spending on drinking water and on sanitation. United Nations (2014) provides estimates of public spending on water, sanitation, and hygiene from its GLAAS 2013/2014 country survey. Estimates range from less than 0.01 percent of GDP in Uruguay to 1.78 percent of GDP in Lesotho. Mexico does not appear in the sample.

²⁴ Note that data for these countries are only available from 2001 on.

²⁵ Universal access to water and sanitation is a key goal of the Water Sector Agenda 2030.

compared to countries with similar access rates, Mexico's average marginal investment costs for expanding WSS coverage appear to be relatively low.

Figure 10.15: The Marginal Cost of Expanding Access to Improved Water and Sanitation Services



Source: Staff calculations based on CEPAL, 2014 and World Bank World Development Indicators.

Note: Chile's 1999 WSS spending of 5.3 percent of GDP is excluded as an outlier

67. **In the early 2000s 90-93 percent of Mexico's population had access to improved water sources, and 80-81 percent had access to improved sanitation.** These rates are comparable with those of Guatemala, Panama and Colombia for water; and Costa Rica, Chile and Uruguay for sanitation. Mexico had the second-lowest average marginal investment cost for water connections. This remained largely unchanged over the decade, even as Mexico significantly increased its coverage rates.

Table 10.6: Marginal Investment Costs in WSS Coverage

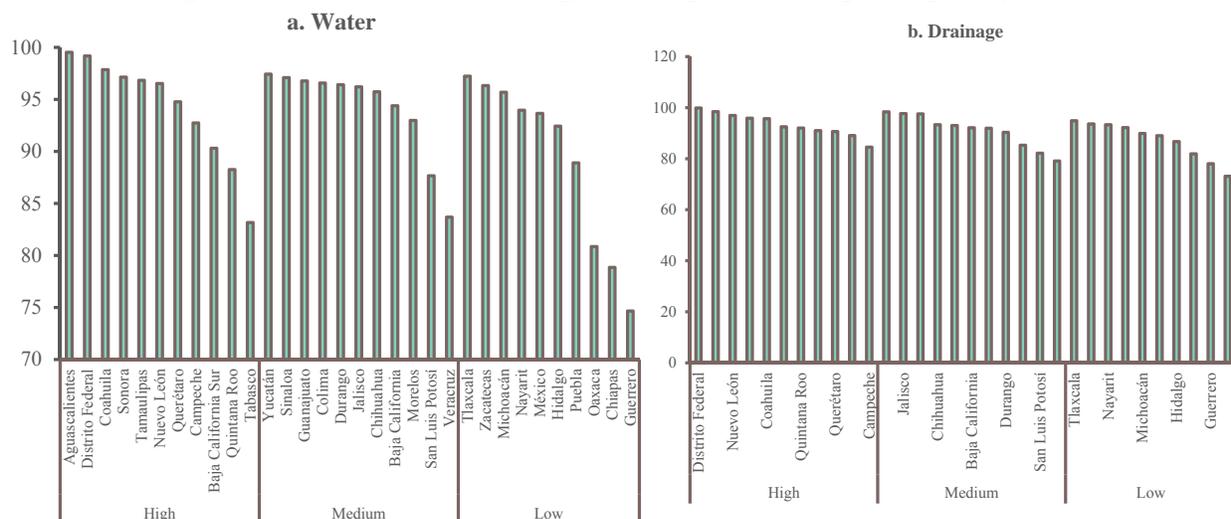
(Access rates and costs in US\$, on PPP terms and at constant 2011 prices, per additional consumer)

a. Access to Improved Water Source							b. Access to Improved Sanitation Facilities						
2003-2007							2003-2007						
Access	\$0-\$499	\$500-\$999	\$1,000-\$1,499	\$1,500-\$1,999	\$2,000-\$5,000	>\$5,000	Access	\$0-\$499	\$500-\$999	\$1,000-\$1,499	\$1,500-\$1,999	\$2,000-\$5,000	>\$5,000
80%-90%	Paraguay (\$161) Bolivia (\$283)	Peru (\$594)	Nicaragua (\$1,393)	Ecuador (\$1,999)			40%-69%	Bolivia (\$415) Paraguay (\$156)	Peru (\$557)			Nicaragua (\$2,023)	
90%-93%			Guatemala (\$1,165) Mexico (\$1,353)	Panama (\$1,662)	Colombia (\$4,660)		70%-79%			Guatemala (\$1,199) Brazil (\$1,290)	Panama (\$1,878) Ecuador (\$1,621)	Colombia (\$4,089)	
94%-97%	Costa Rica (\$461)		Brazil (\$1,279)		Chile (\$3,776)		80%-89%			Mexico (\$1,261)			
98%-100%						Uruguay (\$9,267)	90%-100%	Costa Rica (\$453)				Chile (\$3,238) Uruguay (\$6,233)	
2008-2012							2008-2012						
Access	\$0-\$499	\$500-\$999	\$1,000-\$1,499	\$1,500-\$1,999	\$2,000-\$5,000	>\$5,000	Access	\$0-\$499	\$500-\$999	\$1,000-\$1,499	\$1,500-\$1,999	\$2,000-\$5,000	>\$5,000
80%-90%	Bolivia (\$570)			Nicaragua (\$1,922)	Ecuador (\$3,935) Peru (\$3,644)	Colombia (\$8,343)	40%-69%		Bolivia (\$861)			Nicaragua (\$3,018)	
90%-93%	Paraguay (\$128)	Guatemala (\$692)			El Salvador (\$2,652)		70%-79%	Paraguay (\$195)	Guatemala (\$738)			El Salvador (\$2,239) Peru (\$3,348)	Panama (\$5,135) Colombia (\$7,000)
94%-97%				Costa Rica (\$1,860)	Panama (\$4,722) Mexico (\$2,127) Brazil (\$2,157)		80%-89%				Mexico (\$1,978)	Brazil (\$2,073) Ecuador (\$3,188)	
98%-100%					Chile (\$4,702)	Uruguay (\$6,717)	90%-100%			Costa Rica (\$1867)		Chile (\$3,868)	Uruguay (\$6,691)

Source: World Bank staff estimates based on CEPAL, 2014. World Development Indicators data.

Coverage levels vary considerably by state. Water coverage ranges from 75 percent in Guerrero to 100 percent in Aguascalientes, and drainage coverage ranges from 73 percent in Oaxaca to 100 percent in the Federal District. However, coverage rates do not clearly correlate with the relative wealth or poverty of each state (Figure 10.16). Despite its high GDP per capita Tabasco's access rate for water (83 percent) is similar to that of much poorer states such as Oaxaca (81 percent) and Chiapas (79 percent). Meanwhile, poor states such as Tlaxcala and Zacatecas have water access rates that are comparable to those of the far wealthier Federal District and Coahuila.

Figure 10.16: Water and Drainage Coverage and GDP per Capita by State



Source: Situación del Subsector Agua Potable, Drenaje y Saneamiento, 2005-2013. CONAPO for population data. INEGI for GDP data.

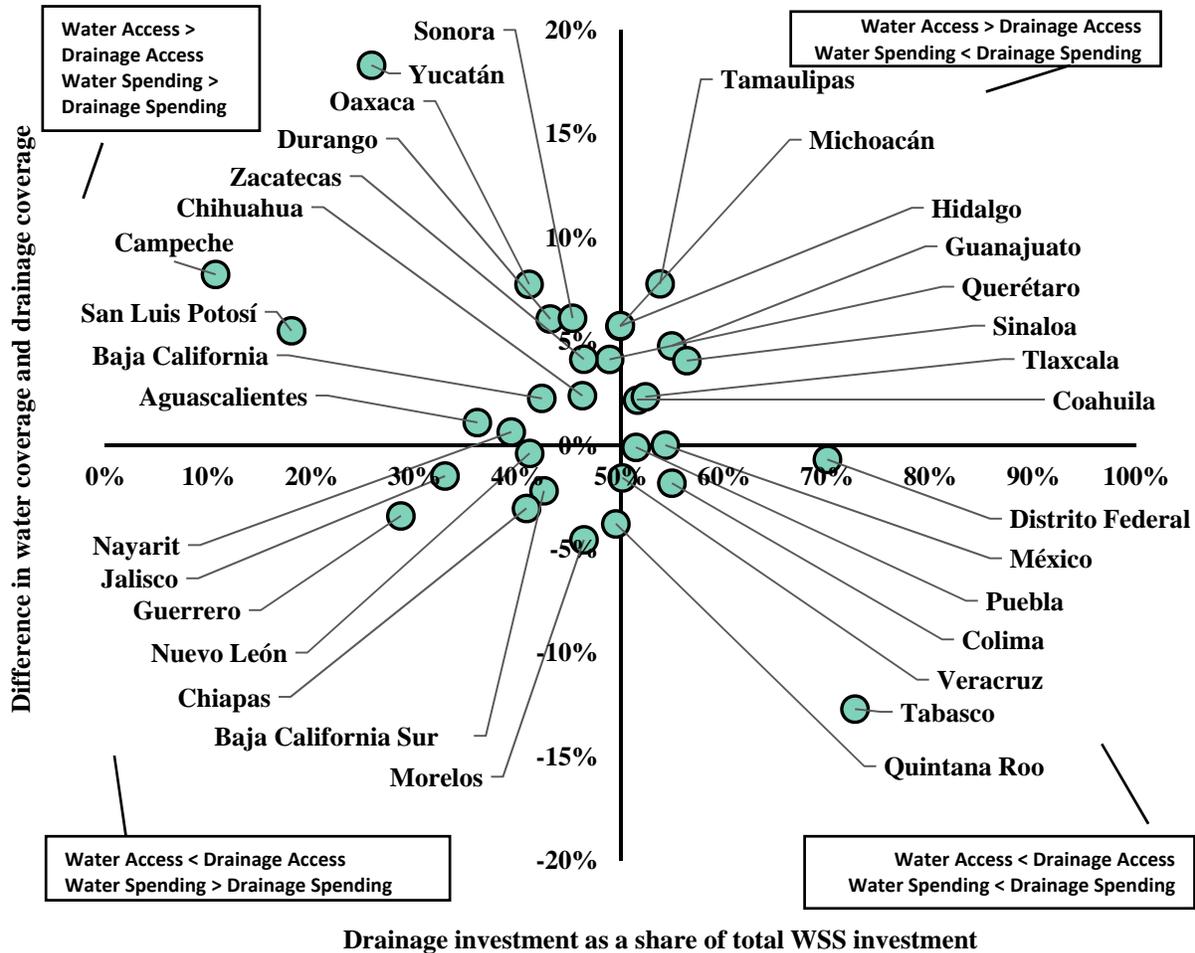
68. **Drainage presents a similar pattern, though access rates seem slightly better correlated with GDP per capita.** Some states are underperforming either in absolute terms or relative to their income level. Chiapas, Guerrero and Oaxaca have the lowest coverage rates among low-income states, while Veracruz and San Luis Potosí have low coverage rates despite being in the middle of the income range, and Campeche has the lowest coverage rate of any upper-income state. However, the general trend appears to favor long-run convergence, as many of the largest recent increases in coverage have occurred in the states with the lowest coverage rates. Chiapas, Oaxaca, Tabasco, and Veracruz, four of the five states with the lowest drinking water coverage rates, were also four of the five states that experienced the largest expansions in coverage between 2005 and 2013. Oaxaca, Guerrero, and Yucatán have the lowest rates of drainage coverage and experienced the largest coverage expansions. While states normally have similar rates of water and drainage coverage, in Yucatán drainage coverage is 18 percentage points lower than water coverage, while in Tabasco drainage coverage is 13 percentage points higher than water coverage.

69. **Allocative efficiency in WSS spending reflects the appropriateness of the distribution of resources between water and drainage for each state relative to its coverage gaps.**²⁶ Assuming that they face similar marginal investment costs, states with better water coverage than drainage coverage might choose to allocate greater resources to drainage, where increased investment would be expected to yield

²⁶ In this case WSS investment is restricted to drinking water and drainage, and a three-year average is used. See WHO, 2014.

higher social returns. However, in practice many states show very different investment patterns. For example, in Yucatán drainage coverage is 18 percentage points lower than drinking water coverage, yet nearly three quarters of investment goes to the drinking water subsector, although the state's geography may partially explain this disparity.²⁷ Coverage differences are less severe in Campeche and San Luis Potosí, but the investment disparity is even larger, with water receiving over 60 percentage points more than drainage in both cases. Moreover, while several other states appear to overspend on drinking water, few states seem to overspend on drainage.

Figure 10.17: Percentage-Point Difference in Water and Drainage Coverage and Spending, 2013



Source: Situación del Subsector Agua Potable, Drenaje y Saneamiento, 2005 to 2013.
 Note: Spending figures are based on a three-year average.

70. A comparison across states reveals that while overall marginal investment costs tend to increase as coverage levels rise, there are important differences in relative efficiency between states. Although both have 97 percent coverage rates for drinking water, an additional connection in the Federal District (at US\$22,156) is roughly 3-5 times as expensive as it is in Coahuila (US\$4,768) or Yucatán

²⁷ Yucatán has long had high rates of drinking water coverage, which have been above 96 percent since 2005.

(US\$6,806). Similarly, Colima has the same rate of drainage coverage (98 percent) as Aguascalientes, Jalisco and Morelo, yet its marginal investment costs are nearly twice as high.

71. **Comparisons between the 2006-2009 and 2010-2013 periods reveal that marginal investment costs in all states have diminished over time.** In the Federal District, for example, the cost of new water connections fell by a remarkable 50 percent. Moreover, the efficiency of drainage investment presents a similar pattern. Unit investment costs dropped significantly between the two periods, with the Federal District again experiencing the largest decrease. The precise causes of this apparently dramatic efficiency improvement are unclear and represent a key area for further analysis.²⁸

CONCLUSIONS AND RECOMMENDATIONS

72. **Introducing a formal mechanism for allocating multi-year funds would eliminate many of the negative effects of the current informal system.** In the medium term the capital budget allocation process should be reformed to include multiannual funding mechanisms beyond the K Projects financed by SHCP. Municipalities should receive an indicative medium-term budget ceiling and begin formulating program operating rules based on a two-year horizon. While multi-year project financing is unusual in Mexico, it is clearly authorized by Article 74 of the Mexican Constitution.

73. **The WSS sector will require major investments in the construction and long-term operation of capital projects.** Long-term investments need to be funded by long-term financial mechanisms. In Europe and the US, WSS projects have long been financed by municipal bonds, often complemented by property taxes or other own-source municipal revenues. In Mexico, federal transfers are the main source of investment capital, supported to varying degrees by local taxes and international aid. Municipal bonds are generally superior to federal funds, as financing local projects with local revenues promotes efficiency in project selection and implementation. Using own-source revenues gives local authorities a strong incentive to ensure that the health and productivity benefits from WSS projects justify the cost of investment.

74. **Policymakers should consider harmonizing and simplifying operating rules to prevent the duplication of functions, align the objectives of multiple programs and effectively target diverse constituencies with different water and sanitation requirements.** Operating rules should be periodically revised, and expenditure management guidelines should allow a degree of flexibility between capital investment and operational expenditure allocations. The reorientation of spending in the 2016 Project Budget Law Project, which consolidated CONAGUA's total programs from 13 to 6, was a highly positive step. However, consolidating programs could inadvertently shift resources toward more expedient objectives at the expense of identified coverage gaps. Moreover, reducing the number of programs will not necessarily increase expenditure efficiency, and policymakers should also consider different approaches such as results-based contracting and financing, multiannual budgeting, allocations based on annualized costs over the life of the assets, and allocation incentives based on verifiable operating improvements. Efforts to improve monitoring and evaluation may be hampered by the aggregation of indicators that may result when programs with different objectives and rationales are consolidated. Similarly, the consolidation of budgets through internal CONAGUA procedures may be opaque to municipalities and other stakeholders, and in-year modifications could have further negative implications for transparency.

75. **Increased budgetary flexibility must be accompanied by greater transparency in decision making and reporting.** CONAGUA's intra-annual, intra-program, inter-state informal transfers should be formalized as an official system based on clear allocation criteria. The investment cycle should be revised

²⁸ See also Annex 4.

to match the needs of actual projects, and in cases where unexpected events require shifts in short-term funding, the scope and rationale for such reallocations should be published in detail.

76. **Policymakers should redouble their efforts to improve the planning and technical capacities of municipalities and sector operators.** Efforts to develop local capacity should focus on poorer states and municipalities, and CONAGUA should reverse the trend of reducing allocations for improving government functions. Local analytical capacity should be developed, particularly in disadvantaged states and localities. CONAGUA should also invest more in monitoring and evaluating projects from an asset-lifecycle perspective. Over the longer term policymakers will need to develop a more thorough understanding of how operational costs are funded by *organismos operadores*. An assessment of how the sector's financial operations function in practice will be necessary to realign investment incentives and ensure the long-term financial sustainability of the WSS sector.

77. **While this chapter of the Mexico PER focuses on the narrowly defined WSS sector, further analytical work should consider broader sectoral issues such as water resources management and the irrigation subsector, the financial status of *organismos operadores*, the spending patterns of states and municipalities, and the composition of CONAGUA revenues.** In a country like Mexico, where water security is a major concern and where a significant amount of resources are spent on bulk water supplies for cities, water resources management and irrigation are critical issues. By definition the PER concentrates on federal spending, and a complementary analysis of expenditures at the state and municipal levels is necessary to achieve a comprehensive understanding of the sector. Similarly, its examination of investment patterns should be complemented by an assessment of the financial health of *organismos operadores*. Moreover, the preceding chapter does not include a thorough evaluation of operational and maintenance expenses or the revenues generated by the utilities themselves, both of which are crucial in order to fully understand the distribution of sectoral expenditures and gauge their efficiency.

78. **K and S Programs should be subjected to a portfolio review.** Between 10 and 40 percent of the approved budget for K Programs goes unspent, and the reasons for this are unclear. Under-execution may reflect a lack of absorptive capacity, or it may be due to in-year cuts by SHCP designed to adjust the overall fiscal accounts. A detailed portfolio review would shed light on the underlying causes and could yield important policy conclusions. This portfolio review could also provide a sense of how many annual S Programs are in fact financing multiannual projects.

79. **The WSS sector suffers from data limitations; generating more comprehensive, detailed and reliable statistics would help establish the analytical foundation for more effective sectoral policies.** A first-order analysis of value for money in the WSS sector is difficult to interpret and yields counterintuitive results. Trends in WSS access and investment rates are relatively flat over time and do not indicate increasing marginal costs in terms of investment or diminishing marginal returns in terms of expanded access. This finding is inconsistent with both the international experience and Mexico's unique geographic and demographic characteristics, implying weaknesses in the quality, consistency and coverage of the underlying data. Similarly, marginal investment costs in Mexico appear to be far lower than in peer countries. Moreover, they appear to have decreased dramatically between 2006-2009 and 2010-2013, further underscoring the importance of additional analysis.

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MEXICO PUBLIC EXPENDITURE REVIEW

Chapter 11: Public Security



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EXECUTIVE SUMMARY

Crime, violence and insecurity are among Mexico's most high-profile challenges. The government has responded aggressively to combat rising crime rates, but its recent progress has come at a considerable fiscal cost. Federal spending on public security has doubled since 2001, and while violence is declining, the results of the government's security policies have been mixed. The number of security personnel has increased dramatically over the past decade, and a complex set of institutions has been developed to coordinate security efforts across the federal, state and municipal levels. However, the process for allocating federal transfers to state and local security agencies is not transparent, and the distribution of resources does not reflect relative crime rates or socioeconomic indicators. Some output measures, such as the reported number of crimes cleared by the police, would appear to indicate that the security system is relatively effective. However, other measures, such as the public's self-reported vulnerability to crime or perceptions of police performance, present far more ambiguous results.

Overall homicides are declining, but drug-related homicides continue to increase. Despite a high degree of media visibility, these rates are lower in Mexico than elsewhere in Latin America. However, only an estimated 6.6 percent of crimes are reported, casting serious doubts on the accuracy of crime statistics. Low reporting rates also suggest that citizens have little trust in security institutions, a conclusion which is supported by survey data. Moreover, public perceptions of police effectiveness have remained largely unchanged in spite of the government's massive increase in expenditures and the large-scale hiring of new personnel. In 2013 federal spending on public security reached 1.5 percent of GDP and 8 percent of executed expenditures, a larger share than the public health sector. Nevertheless, security spending in Mexico is still below the OECD average.

Methodology

The analysis presented in this chapter is based on a three-pronged methodological approach. First, an institutional assessment was undertaken in an effort to elucidate the link between the allocative efficiency of security spending, the structure of the sector, and the political economy of federal-state relations. Second, trends in federal security spending were examined from functional, economic and programmatic perspectives. Third, the efficiency of the police and the justice sector was analyzed, both in terms of outputs and outcomes. Interviews were conducted with experts and government officials, and data were collected from the National Institute of Statistics and Geography. However, detailed data on the rank structure and salaries of security personnel were unavailable.

Main Messages

The efficiency of public security spending depends on the quality of interagency coordination and the political economy of federal-state relations. This is evident in the administration of federal transfers to state and municipal security forces through the Fund for Contributions to the Public Security of the States and the Federal District (FASP), the Subsidy for the Security of Municipalities (SUBSEMUN), and the Subsidy for Accredited Police (SPA). States are guaranteed a significant portion of FASP funding without the application of the distribution formula, and the formula itself is so complex that it is difficult to ascertain how the distribution of resources is actually determined. A lack of transparency perpetuates these inefficiencies; according to the Superior Audit Office, the crime and violence diagnostics that states and municipalities are obliged to prepare in order to access FASP and SUBSEMUN funds are either unavailable or incomplete. The formula for SUBSEMUN allocations is public, but the process through which municipalities are selected to receive funds is not. Moreover, public security spending does not appear to reflect equity concerns, as state-level poverty and inequality rates seem either not correlated, or in fact negatively correlated, with security spending. Even in states where the levels of violence are very high, there does not appear to be a correlation between homicide rates and security spending.

In 2013 38.8 percent of total security spending was devoted to the justice system, 32.9 percent to national security, and 28.4 percent to law enforcement. The police account for 75 percent of law enforcement expenditures, and in nominal terms the police budget is roughly equal to the military budget. Mexico spends a relatively large share of its fiscal resources on the justice system, yet it has the lowest number of magistrates per capita in Latin America at just 4 per 100,000 people, which is almost a fourth of the OECD average. In 2013 the federal government was operating a staggering 99 public security programs, with 18 percent of federal security spending going to an unspecified “other activities” category. Here, as elsewhere in the security sector, the lack of access to information makes it difficult to gauge expenditure performance.

Conclusions and Recommendations

In order to increase the allocative efficiency of public security spending, the government should take steps to improve the administration of FASP and SUBSMEMUN resources. In the short term the government should ensure that the procurement of goods and services for citizen security and violence prevention projects at the local level is fully transparent and public, as this could generate important cost savings. States and municipalities should also upgrade their financial management information systems to ensure that regular financial reports are produced. Over the medium term the authorities should consider revising the allocation formula for FASP to simplify the distribution criteria and make the process of applying for funds more competitive. The SUBSEMUN formula should also be reconsidered with a view to simplifying it and making the allocation process more transparent. States should also develop and adopt standardized planning, monitoring and evaluation protocols that enable policymakers to track projects deliverables, outputs and outcomes. In the long run the government should extend the project cycle of all public security programs financed by federal transfers to two years to allow for the execution of more complex initiatives.

From a public financial management perspective, the government should consider the long-term fiscal impact of increasing personnel costs. This is especially critical in light of the ongoing “single command” reform program, which will dissolve municipal police forces and transfer roughly 500,000 police officers to state command. Shifting such a significant number of personnel is likely to have a large and continuous effect on expenditures, and it is unclear whether the program’s fiscal implications have been accounted for in government spending plans. A comprehensive review of the organizational structure of the police forces, including those under the new “single command,” would yield important insight into the overall efficiency and effectiveness of security spending.

In terms of strategic objectives the authorities should explore strategies for improving outcome indicators (e.g. perceptions of insecurity), rather than focusing exclusively on outputs (e.g. crimes cleared). The public’s perceptions of crime and of the effectiveness of police have been largely unaffected by the recent increase in security spending. While important progress has been made in certain output measures, policymakers should take a holistic view of the outcomes generated by the security sector.

Finally, the government should conduct a thorough expenditure assessment of the justice system. Mexico’s low number of magistrates per capita has resulted in a large backlog of cases. Although judges and magistrates account for less than 10 percent of the total personnel in the justice system, they account for more than 50 percent of the highest salaries. Meanwhile, administrative and technical staff cover 90 percent of personnel accounting for half of the low end of the salary range. This discrepancy is a serious impediment to the operations of the entire security sector, and it is especially problematic in light of the relatively large share of resources devoted to the justice system. A more detailed understanding of the organizational structure of the judiciary and how judicial resources are spent could form the basis for more effective expenditure policies.

INTRODUCTION

1. **Crime, violence and insecurity present serious challenges to Mexico's economic and social development.** Mexico is a major hub for some of the world's largest, most sophisticated and most violent criminal organizations. These groups traffic in illegal drugs, arms and even human beings, often laundering their proceeds through regional banks and businesses.¹ While a comprehensive analysis of the drivers of crime and violence in Mexico is beyond the scope of this Public Expenditure Review (PER), the following chapter examines the government's response to rising homicide rates, explores the policies and institutional arrangements that comprise the public security sector, and evaluates their impact on public spending. The chapter analyzes trends in federal spending on public security, assesses the efficiency of police and justice-sector spending, and concludes with a set of recommendations designed to increase the efficiency, equity and impact of security policies.

Recent Trends in Crime and Violence

2. **According to the National Public Security System (*Sistema Nacional de Seguridad Pública*, SNSP), the homicide rate doubled between 2007 and 2011 before dropping by about 22 percent between 2011 and 2013.**² However, while overall homicides have been declining, drug-related homicides appear to be increasing (Figure 11.1 **Error! Reference source not found.**). Various studies estimate that drug-related killings account for between 50 and 70 percent of all intentional killings in Mexico,³ though these assessments are subject to serious data limitations.

3. **Kidnapping and extortion remain serious threats despite the falling homicide rate.** The SNSP reported 330 kidnappings and 1,305 extortion cases nationwide in January and February 2014, an 11 percent and 4.5 percent increase, respectively, from the same months in 2013 (Figure 11.2).⁴

4. **Nevertheless, the rates of intentional killings are lower in Mexico than elsewhere in Latin America.** Even the peak 2011 rate of 20 homicides per 100,000 people is below the regional average for Latin America (approximately 24.5). According to data from the United Nations Office for Drugs and Crime (UNODC), Mexico's homicide rate is lower than that of Colombia or Brazil, although Mexico experienced a much steeper increase in intentional killings between 2007 and 2012⁵ (Figure 11.3). Homicide rates in Mexico are, however, far higher than in OECD countries, which average about 4 homicides per 100,000 people (Figure 11.4).

¹ InSight Crime. 2015. "Mexico: Country Profile." Retrieved on May 29, 2015 from <http://www.insightcrime.org/mexico-organized-crime-news/mexico>

² Centro Nacional de Informacion. 2015. "Tasas por cada 100 mil inhabitants." Retrieved on May 29, 2015 from <http://secretariadoejecutivo.gob.mx/docs/pdfs/tasas%20por%20cada%20100%20mil%20habitantes/Tasas042015.pdf>. Centro Nacional de Informacion. 2015. "Cifras de homicidio doloso, secuestro, extorsión y robo de vehículos

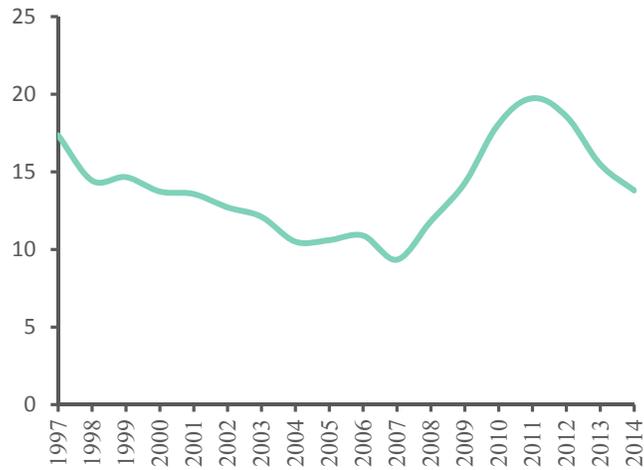
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³ Heinle, K, O. Rodríguez Ferreira, and D. A. Shirk. 2014. "Drug Violence in Mexico: Data and Analysis through 2013." San Diego: University of San Diego. Retrieved on May 27 2015 from <https://justiceinmexico.files.wordpress.com/2014/04/140415-dvm-2014-releasered1.pdf> See also Rafael Cabbrera, "Menos Homicidios y Mas Secuestros durante 2013," retrieved May 27, 2015 from <http://www.animalpolitico.com/2014/01/menos-homicidios-y-mas-secuestros-durante-2013-snsnp/>

⁴ SNSP. 2014. "Informe de Víctimas de Homicidio, Secuestro y Extorsión." Retrieved on 29 May 2015 from http://secretariadoejecutivo.gob.mx/docs/pdfs/estadisticas%20del%20fuero%20comun/Cieisp2014_012015.pdf

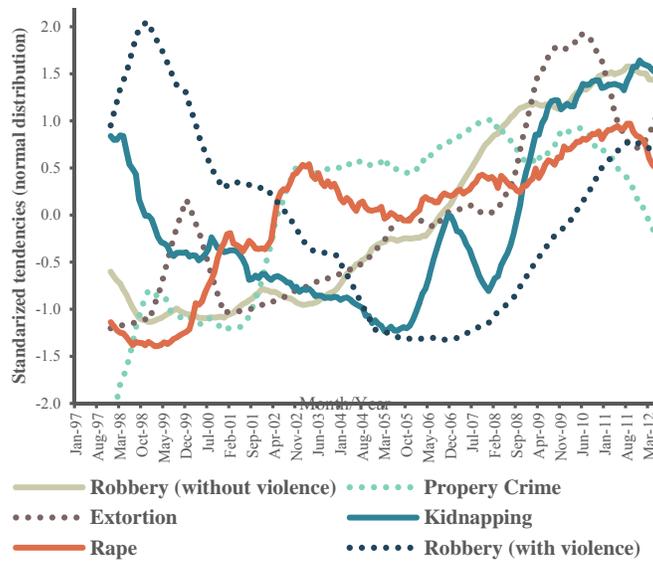
⁵ Data corroborated from Heinle, Rodríguez Ferrerira, and Shirk, 2014. "Drug Violence in Mexico," Centro Nacional de Informacion, 2015 and UNODC, 2013. "Global Homicide Study." Retrieved 29 May 2015 from <http://unodc.org/gsh/>. There is some discrepancy between UNODC and SESNP data because the UN uses public health rather than criminal justice records.

Figure 11.1: Homicide Rates in Mexico, 1997-2013



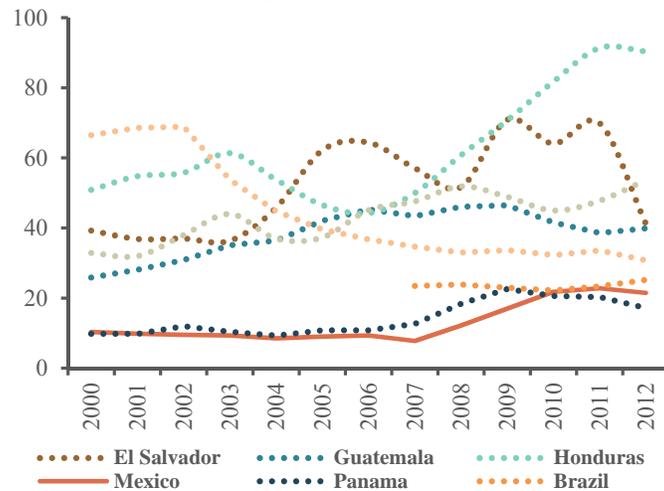
Source: Centro Nacional de Informacion, 2015

Figure 11.2: Other Crimes in Mexico, 1997-2012



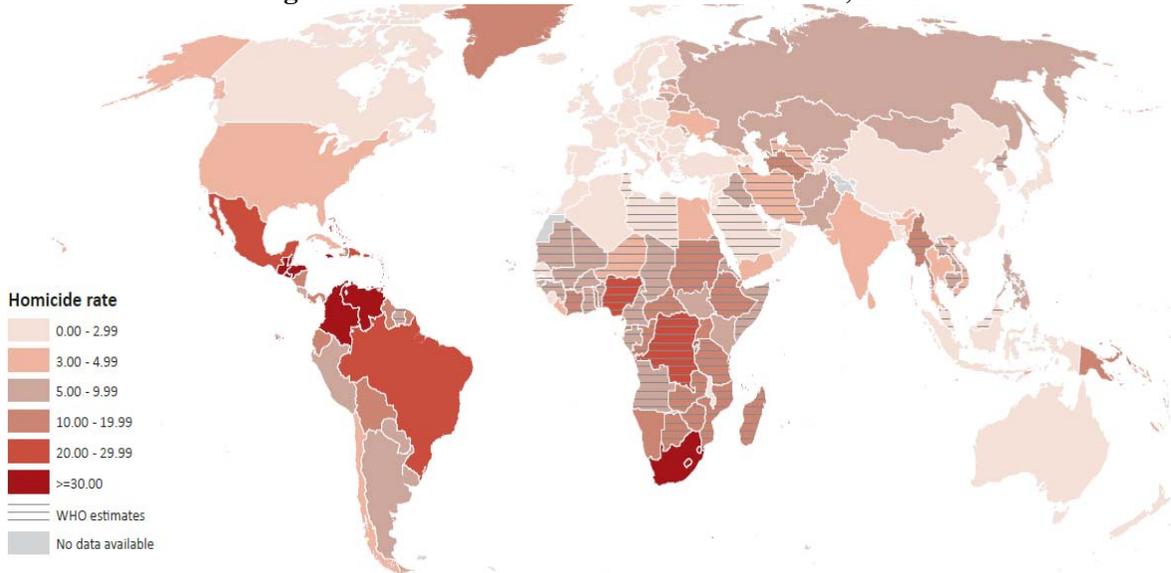
Source: World Bank staff analysis based on SNSP data

Figure 11.3: Homicide Rates in Select Latin American Countries, 2000-2012



Source: UNODC, 2013

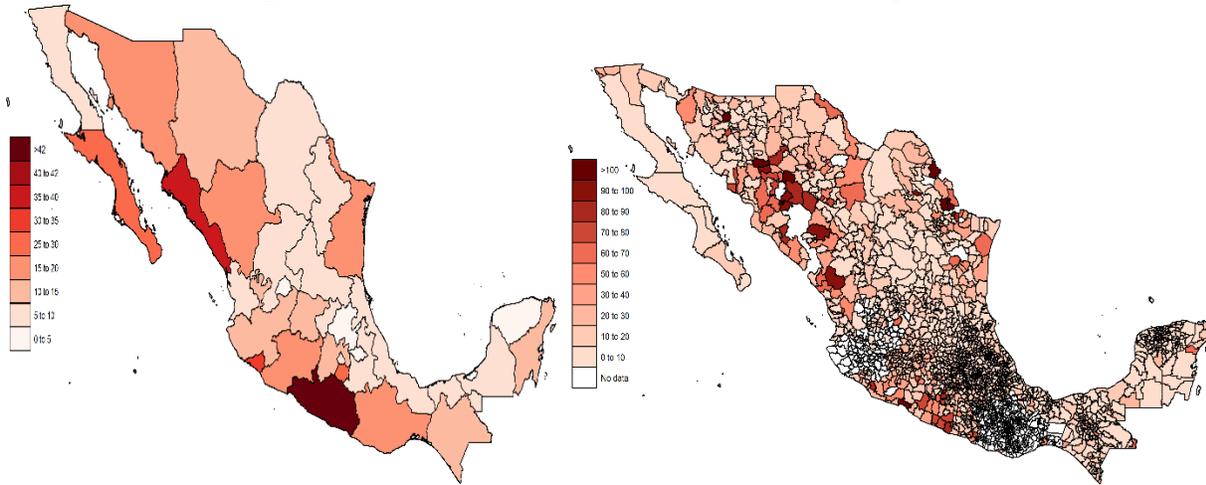
Figure 11.4: Homicide Rates around the World, 2012



Source: UNODC, 2013

5. **Mexico’s relatively moderate overall levels of violence compared to other countries in the region mask significant differences between Mexican states.** As Figure 11.5 shows, when homicides are disaggregated at the state level, large disparities emerge. Some states, like Sinaloa and Guerrero, recorded more than 40 homicides per 100,000 inhabitants, twice the national average, whereas others, such as Yucatan, recorded fewer than 5. Furthermore, when homicides are disaggregated at the municipal level, the variation is even larger. The high degree of state and municipal heterogeneity underscores the extent to which violence is a local problem.

Figure 11.5: Homicide Rates at the State and Municipal Level

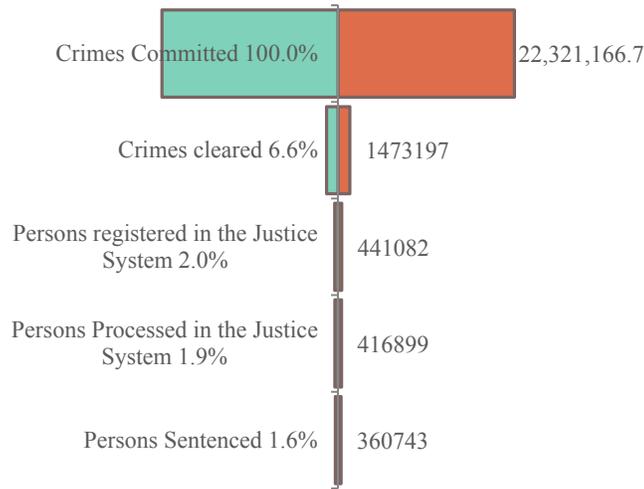


Source: World Bank staff analysis

6. **It is inherently difficult to determine a clear causal relationship between security spending and levels of crime and violence.** To some extent the decreasing trend in homicides reflects improvements in law enforcement coordination and an increase in the size of the security apparatus, which will be discussed in detail below. However, crime and violence are driven by a complex array of factors, both domestic and international, many of which are exogenous to security policy. These include Mexico’s geographic position as a natural overland drug corridor connecting traffickers in South America to markets in the United States; socio-economic factors such as inequality and poverty, which can drive young people to join gangs; and corruption, which makes institutions susceptible to elite capture and encourages the misallocation of resources.

7. **Moreover, there is reason to believe that Mexico’s crime statistics are severely underreported.** Cross-referencing victimization surveys with criminal justice data shows that as few as 6.6 percent of crimes are reported, hence the “dark number” (*cifra negra*) of unreported crimes could account for as much as 93.4 percent. Remarkably, only 2 percent of all crimes were processed through the criminal justice system, and just 1.6 percent reached the sentencing phase.

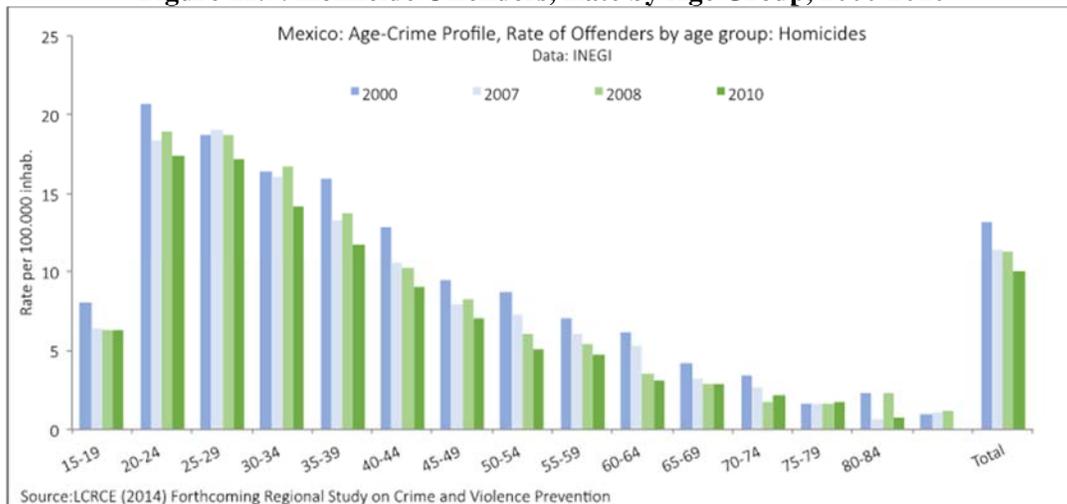
Figure 11.6: Reported vs. Committed Crimes



Source: Ethos Laboratorio de Politicas Publicas, INEGI, SESNP, ENVIPE 2014

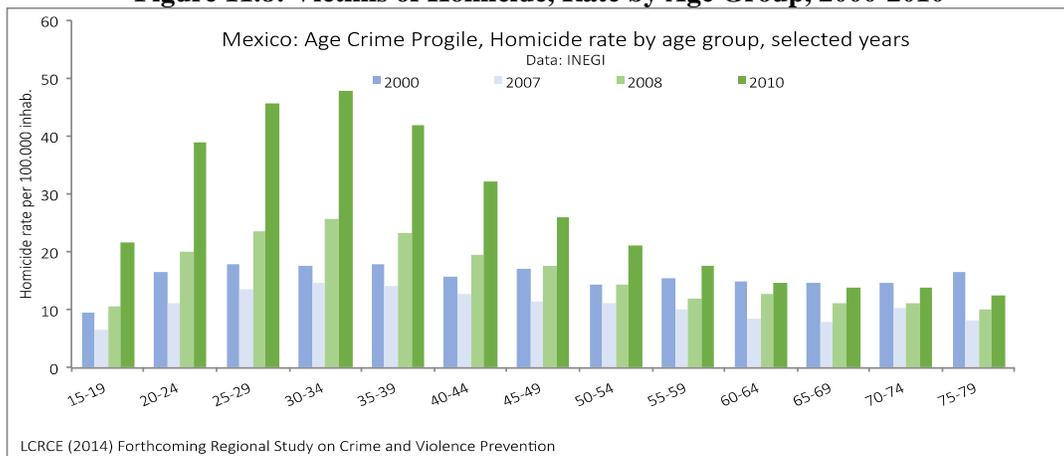
8. **Mexico's young people are most affected by crime and violence.** Young males make up the majority of both victims and perpetrators of homicide. According to the Ministry of the Interior (*Secretaría de Gobernación*, SEGOB) 38.2 percent of all homicide victims between 2000 and 2010 (53,000 in total) were between the ages of 10 and 29, while 33.5 percent of all homicides were committed by people age 25 or younger.⁶ Homicide has become the second leading cause of death for males aged 15-24, and Mexico now ranks third in the region in youth homicides, after Brazil and Colombia.⁷ As Figure 11.7 and Figure 11.8 show, the victimization and perpetration rates per 100,000 inhabitants are much higher in the 20 to 39 year-old bracket than in the rest of the distribution.

Figure 11.7: Homicide Offenders, Rate by Age Group, 2000-2010



Source: Forthcoming regional study on crime and violence prevention, World Bank Office of the Chief Economist for the Latin America and Caribbean Region (LCRCE), 2014

Figure 11.8: Victims of Homicide, Rate by Age Group, 2000-2010



Source: Forthcoming regional study on crime and violence prevention, LCRCE, 2014

⁶ SEGOB. 2013. "Programa Sectorial 2013-2018." Retrieved on May 29, 2015 from http://www.gobernacion.gob.mx/work/models/SEGOB/Resource/620/4/images/Programa_Sectorial_SEGOB_DOF_121213_Separata.pdf

⁷ Alvarado, A.. 2013. "La Violencia Juvenil en America Latina." *Estudios Sociológicos*, vol. XXXI, núm. 91, enero-abril, 2013, pp. 229-258. Retrieved on May 29 from <http://www.redalyc.org/pdf/598/59830136009.pdf>

9. **In addition to their terrible human toll, crime and violence exact high fiscal and economic costs.** A broad accounting completed in 2009 estimated the direct and indirect economic costs of crime and violence in Mexico at around 7 percent of GDP.⁸ Victimization surveys estimated losses to crime victims at US\$12.9 billion in 2010, with additional crime-related health expenses totaling US\$619 million.⁹ The World Bank Enterprise Surveys concluded that losses due to theft and vandalism reduced revenues by as much as 3.6 percent, while 42.8 percent of Mexico's firms paid for private security at an average cost of about 2.2 percent of their annual revenue.¹⁰ In addition, high levels of violence also affect the labor market. Recent research shows that for every 10 drug-related homicides per 100,000 inhabitants unemployment increases by 0.5 percent.¹¹ These dynamics are also at play at the municipal level. Estimates suggest that Mexican municipalities with high levels of crime, measured by drug-related homicides, experienced slower levels of growth between 2005 and 2010 compared to municipalities that did not experience such high levels of crime.¹²

10. **Successive administrations have placed a high priority on public safety, but different approaches to security policy have created an increasingly complex institutional framework.** Prosecutions and the fight against drug trafficking have intensified since the presidency of Carlos Salinas de Gortari. In 1999, the Ernesto Zedillo administration created the Federal Preventative Police, increasing emphasis on crime prevention. President Vicente Fox established the Ministry of Public Security (*Secretaría de Seguridad Pública*, SSP) and the Sub-Secretariat of Prevention, Coordination and Human Rights. The Felipe Calderon administration actively pursued "war on drugs" policies, which emphasized punitive measures and focused on arrest and conviction rates.

11. **The administration of President Enrique Peña Nieto has attempted to forge a public security strategy that combines crime and violence prevention with a strong institutional response.** The 2013-2018 National Development Plan identifies drug trafficking as a serious economic and social development challenge and "achieving peace" as a top priority.¹³ It proposes a number of interventions to create better education and employment opportunities for youth, prevent violence against women and children, and improve the efficiency of justice services. Moreover, the 2014-2018 National Public Safety Program focuses on improving coordination among federal security agencies.

⁸ ICESI. 2009. "El costo de la inseguridad en Mexico." Mexico, D.F.: ICESI. Retrieved on May 29, 2015 from http://www.seguridadcondemocracia.org/administrador_de_carpetas/Encuestas/estadisticas/cuaderno_icesi_5_costoinseguridad.pdf

⁹ INEGI. 2011. Encuesta Nacional de Victimización y Percepción sobre Seguridad Pública (ENVIPE). Mexico, D.F.: INEGI. Retrieved May 29, 2015 from

<http://www.inegi.org.mx/est/contenidos/proyectos/encuestas/hogares/regulares/envipe/envipe2011/default.aspx>

¹⁰ World Bank. 2012. "World Enterprise Survey: Mexico." Retrieved on May 29, 2015 at

<http://www.enterprisesurveys.org/data/exploreeconomies/2010/mexico#crime>. Average losses for middle-high income countries like Mexico (Argentina, Botswana, Chile, Colombia, Mexico, Panama, Peru, Uruguay, Venezuela) are 2.7 percent.

¹¹ Arias-Vazquez, J. and G. Esquivel. 2013. "A Note on the Side Effects of the War on Drugs: Labor Market Outcomes in Mexico." Mexico, D.F.: El Colegio de Mexico.

¹² Enamorado, T., Lopez-Calva, L.F., Rodriguez-Castelan, C., & Winkler, H. 2015. "Income Inequality and Violent Crime: Evidence from Mexico's Drug War" in *HiCN Working Papers* 196, Households in Conflict Network.

¹³ The *Plan Nacional de Desarrollo* is available at <http://pnd.gob.mx/>

Box 11.1: The 2014-2018 National Public Safety Program

The National Public Safety Program is the guiding policy document for the federal security sector. The program is based on a multidimensional view of security that encompasses domestic and international trends and variables such as poverty and economic development. It recognizes that security is not an exclusive prerogative of the executive agencies, but extends to all branches of government, as well as civil society. It emphasizes the importance of using the armed forces to maintain public order and combat organized crime. The program's objectives include:

- Strengthening interagency coordination in the design, implementation and evaluation of public security policies;
- Reducing the incidence of crimes that have the greatest impact on the population;
- Reducing the incidence of economic and financial crimes;
- Developing public security institutions that work in close cooperation with civil society;
- Strengthening the capacity of law enforcement institutions; and
- Strengthening the national prison system, particularly with respect to juvenile offenders.

Source: CNS, Programa Nacional de Seguridad Publica and Diario Oficial de la Federacion, Programa Nacional de Seguridad Publica 2014-2018

THE PUBLIC SECURITY SECTOR: INSTITUTIONAL STRUCTURE AND CHALLENGES TO ALLOCATIVE EFFICIENCY

13. **In recent decades, rising levels of crime and violence in Mexico have led to the development of a complex array of highly specialized security sector institutions and coordination agencies designed to ensure policy coherence across federal, state and municipal levels.** Public security strategy and policy are executed by states and municipalities and coordinated through consensus mechanisms. As a result, the allocative efficiency of public security spending depends to a large extent on the success of coordination efforts and the political economy of federal-state relations. The purpose of this section is to (i) provide an overview of how the security sector is organized; and (ii) highlight how its complex institutional structure affects the efficiency of spending allocations.

The Federal Government

14. **SNSP is the federal agency tasked with overseeing Mexico's security strategy and policy.** The governing body of the SNSP is the National Security Council (*Comisión Nacional de Seguridad*, CNS), which is chaired by the President of the Republic. The CNS includes representatives from SEGOB, the Secretariat of National Defense (*Secretaría de la Defensa Nacional*, SEDENA) and the Secretariat of the Navy (*Secretaría de la Marina*, SEMAR), as well as the Attorney General (*Procuraduría General de la República*, PGR), as well as state governors and the head of the Federal District. **Error! Reference source not found.** illustrates the overall structure of the public security sector.

15. **The CNS establishes the broad strategic orientation of national defense and public security policy.** SEGOB's primary functions within the CNS are to maintain public safety and prevent crime. It relies on the Executive Secretariat of the National Public Security System (*Secretariado Ejecutivo del Sistema Nacional de Seguridad Pública*, SESNSP), the Federal Police, the Undersecretary for Prevention and Citizen Participation, and agencies such as the National Center for Investigation to carry out these functions. The SESNSP is responsible for implementing and monitoring strategies and policies adopted by the CNS. It also administers federal transfers to states and municipalities to strengthen security and public safety, as well as manages the National Center for Crime Prevention and Citizen Participation and the National Center for Certification and Accreditation. SEDENA serves the dual role of defending Mexico against external threats and addressing the domestic security concerns posed by drug cartels. Although it is

primarily a military organization, SEDENA spends a considerable amount of resources combating crime and violence.¹⁴

16. **The Undersecretary for Prevention and Citizen Participation manages the National Violence Prevention Program (*Programa Nacional de Prevención del Delito, PRONAPRED*).** Since its inception in 2013 PRONAPRED has disbursed funds via state governments to 107 territorial zones (*poligonos*) identified as priority areas due to factors such as high youth unemployment, poverty or an increase in organized crime. To access program funds municipalities within each zone must develop a crime prevention strategy, which must then be approved by a federal inter-secretarial commission. The 2015 PRONAPRED budget is MXN 2.68 billion, though some estimates suggest that proposed 2016 budget cuts would reduce this amount by 26 percent.¹⁵

17. **The Federal Police is the primary executive agency responsible for investigating federal crimes.** Its prominent role in combating organized crime has contributed to its exponential growth in recent years. In 2006 the Federal Police had 11,663 personnel. By 2015 this figure had risen to 43,724, a 275 percent increase.¹⁶

Box 11.2: How Much Does Mexico Spend on Violence Prevention?

As noted above, the 2015 PRONAPRED budget is MXN 2.68 billion; however, the precise amount Mexico spends on violence prevention is unclear. According to the 2015 Federal Expenditure Budget (*Presupuesto de Egresos de la Federación*) the Federal Government is spending MXN 143.29 billion on crime and violence prevention. This includes expenditures by virtually every ministry and encompasses a variety of areas including human rights, temporary employment, microfinance, and prosecutions. As a result, state officials and municipal administrators can classify virtually every public investment as supporting violence prevention.

Source: Presupuesto de Egresos de la Federación para el Ejercicio Fiscal 2015

18. **The PGR is responsible for prosecuting crimes under federal jurisdiction.** These include smuggling, tax evasion, drug and human trafficking, illegal possession of firearms, money laundering, electoral fraud, and crimes that undermine Mexico's cultural heritage. The PGR works closely with prosecutors in the Federal Public Ministry to investigate crimes and the Federal Ministerial Police to execute arrest warrants, perform searches, and gather evidence.¹⁷ The SNSP also comprises a number of permanent committees and national conferences staffed by experts that attempt to link public security strategy and policy to operations at all levels of government (Table 11.1).

19. **While the judiciary (*Poder Judicial de la Federación*) is not part of the SNSP, it is a key institution within the public security sector.** The judiciary accounts for a significant portion of public

¹⁴ The decision to include SEDENA in the calculations was taken following consultations with experts.

¹⁵ Secretaría de Hacienda y Crédito Público. Presupuesto de Egresos de la Federación 2015, visitado el 24 de abril del 2015 en http://www.apartados.hacienda.gob.mx/presupuesto/temas/pef/2015/docs/04/r04_ppcer.pdf La Jornada, 16 de febrero de 2015. "Pega el recorte a plan contra la violencia, anuncia Campa". México D.F., visitada el 24 de abril del 2015 en <http://www.jornada.unam.mx/ultimas/2015/02/16/recorte-afectara-a-programas-de-prevencion-de-violencia-campa-6407.html>

¹⁶ Secretaría de Hacienda y Crédito Público. Análisis de Plazas y Remuneraciones de la Administración Pública Federal, visitado el 24 de abril del 2015 en <http://www.shcp.gob.mx/EGRESOS/PEF/analiticos/proyecto/Paginas/2015.aspx>. Secretaría de Hacienda y Crédito Público. Presupuesto de Egresos de la Federación 2015, visitado el 24 de abril del 2015 en http://www.apartados.hacienda.gob.mx/presupuesto/temas/pef/2015/docs/04/r04_ppcer.pdf

¹⁷ Conferencia Nacional de Procuración de Justicia, 2014. Programa integral de capacitación en el sistema de justicia acusatorio para instituciones de procuración de justicia. Mérida, Yucatán, visitado el 27 de abril del 2015 en <http://www.pgr.gob.mx/prensa/2007/docs08/lunes12012015-sjpa.pdf>

security spending. Sentences are carried out in 17 Federal Centers for Social Rehabilitation (*Centros Federales de Readaptación Social*, CEFRESOS), which currently house 24,978 inmates.¹⁸

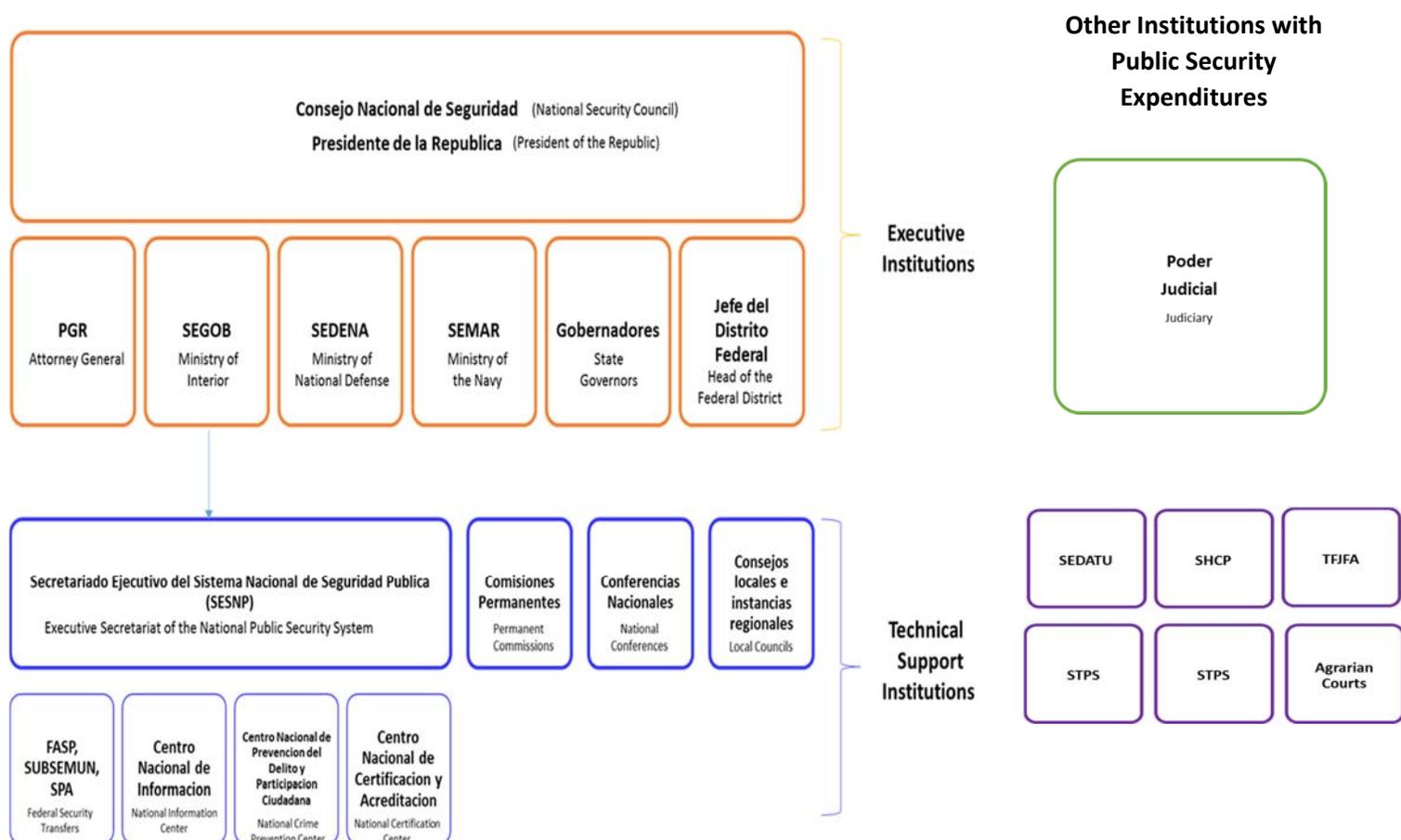
Table 11.1: SNSP Technical Institutions

Permanent Committees	National Conferences
Permanent Commission on Information	Conference on Justice and Law Enforcement
Permanent Commission on Certification and Accreditation	National Conference of the Penitentiary System
Commission on Crime Prevention and Citizen Participation	National Conference of State Secretaries of Public Security
	National Conference Municipal Public Security

Source: SEGOB

¹⁸ Secretaría de Hacienda y Crédito Público. Análisis de Plazas y Remuneraciones de la Administración Pública Federal, visitado el 24 de abril del 2015 en <http://www.shcp.gob.mx/EGRESOS/PEF/analiticos/proyecto/Paginas/2015.aspx>. Secretaría de Hacienda y Crédito Público. Presupuesto de Egresos de la Federación 2015, visitado el 24 de abril del 2015 en http://www.apartados.hacienda.gob.mx/presupuesto/temas/pef/2015/docs/04/r04_ppcer.pdf. Conferencia Nacional de Procuración de Justicia, 2014. Programa integral de capacitación en el sistema de justicia acusatorio para instituciones de procuración de justicia. Mérida, Yucatán, visitado el 27 de abril del 2015 en <http://www.pgr.gob.mx/prensa/2007/docs08/lunes12012015-sjpa.pdf>. Comisión Nacional de Seguridad, Febrero de 2015. Cuaderno mensual de información estadística penitenciaria nacional. Visitado el 28 de abril del 2015 en http://www.ssp.gob.mx/portalWebApp/wlp.c?_c=1e478

Figure 11.9: The Public Security Sector in Mexico



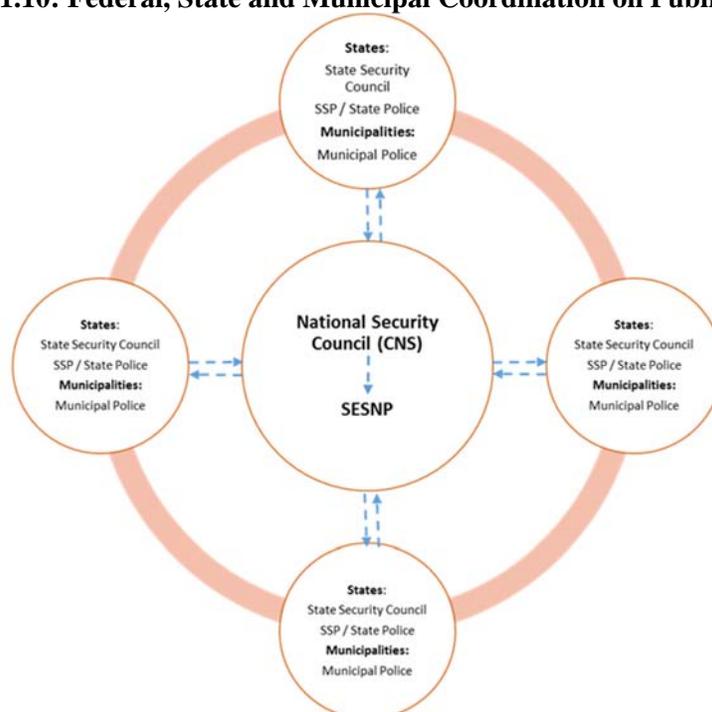
Source: World Bank staff analysis

20. **In addition to the SNSP and the judiciary, a number of other government entities that do not possess a core security mandate dedicate a small share of their budget to security-related issues.** These include the Ministry of Finance (Secretaría de Hacienda y Crédito Público, SHCP), the Ministry of Agriculture, Land and Urban Development, the Department of Salaries and Economic Provisions, the Ministry of Transportation and Social Welfare, the Federal Court of Fiscal and Administrative Justice, and the rural courts.

21. **The structure of public security institutions at the state level mirrors the federal level (Figure 11.10).** State security institutions are grouped into Councils of State Security or Executive Secretariats of State Security, which follow similar lines of accountability. For instance, the state police are institutionally tied to the State Ministry of Public Security or to the head of the State Security Committee (the state-level equivalent of SEGOB). These entities are responsible for implementing crime prevention programs and regulating state penitentiaries known as Social Rehabilitation Centers (*Centros de Readaptación Social*, CERESOS). Councils of State Security work closely with the CNS to implement security strategies and policies at the subnational level. States receive public funds from the Fund for Contributions to Public Security (*Fondo de Aportaciones para la Seguridad Pública*, FASP) and Subsidy for Municipal Public

Security (*Subsidio a la Seguridad Pública Municipal*, SUBSEMUN), and they also invest their own resources in public security.

Figure 11.10: Federal, State and Municipal Coordination on Public Security



Source: World Bank staff analysis

22. **State governments investigate, prosecute and pass sentence for “common crimes” (*delitos de fuero comun*), including homicide, robbery, extortion and kidnapping.** As at the federal level the State Attorneys General coordinate criminal investigations with support from agents of the state-level ministries and police forces. The state judiciary determines sentences. There are 359 CERESOS¹⁹ in the 32 states and 11 in the Federal District; together they house 232,313 inmates.²⁰

23. **With the exception of Municipal Councils for Public Safety, there are no specialized public security policy bodies at the municipal level, and the most important municipal security institution is the police.** Mexico has about 1,800 municipal police departments,²¹ which together with the state and federal police amount to an estimated 544,000 personnel.²² Given that SUBSEMUN supports only 280 of Mexico’s 2,885 municipalities many local governments invest their own resources in public safety.²³

24. **In November 2014 the Federal Government sent Congress a bill proposing the creation of a single police command (*mando unico policial*) for the states.** The proposal has not yet been discussed or

¹⁹ 285 of these are Social Rehabilitation Centers and 74 are Municipal Social Rehabilitation Centers

²⁰ Comisión Nacional de Seguridad, Febrero de 2015. Cuaderno mensual de información estadística penitenciaria nacional. Visitado el 28 de abril del 2015 en http://www.ssp.gob.mx/portalWebApp/wlp.c?_c=1e478

²¹ Presidencia de la República, 2014. Iniciativa de Decreto por el que se reforman los artículos 21, 73, 104, 105, 115, 116 y 123 de la Constitución Política de los Estados Unidos Mexicanos. México D.F., visitado el 28 de abril del 2015 en http://www.senado.gob.mx/comisiones/justicia/docs/Audiencias_Seg_Justicia/Iniciativa_Poder_Ejecutivo.pdf

²² Sabet, D., Police Reform in Mexico: Advances and Persistent Obstacles, Woodrow Wilson Center for International Scholars, Mexico Institute; and University Of San Diego, Trans-Border Institute, Working Paper Series on U.S.-Mexico Collaboration, May 2010, retrieved on 29 May 2015 from Police Reform in Mexico: Advances and Persistent Obstacles

²³ Federación Nacional de Municipios de México AC. Geografía Política Municipal. Visitado el 30 de abril del 2015 en http://www.fenammm.org.mx/site/index.php?option=com_content&view=article&id=187&Itemid=123

approved by lawmakers, and resources have not been earmarked for its implementation. However, since 2011 the Subsidy for Accredited Police (*Subsidio para la Policía Acreditada*, SPA) has provided grants to states to assist in reorganizing police forces under the single command structure. The reform involves the transition of roughly 500,000 police officers from municipal to state command (Box 11.3). Such a radical reorganization would entail long-term fiscal and public sector impacts.

Box 11.3: The Single Police Command Bill

The proposed single police command bill would amend Article 21 of the Constitution to define public security as the primary responsibility of federal and state governments. Under the bill municipalities would still design and implement crime and violence prevention policies, but major policy decisions would be made at the state and federal levels. The bill proposes to:

- Dissolve all municipal police forces by incorporating the roughly 1,800 municipal police departments into the 32 state police forces;
- Put state governments in charge of public security at the municipal level;
- Municipal police pass under state command, but could be subjected to assessments and certifications determined by each state government; and
- Establish rules to standardize hiring, training, evaluation, and disciplinary procedures for members of public security institutions.

Guerrero, Michoacán, Jalisco and Tamaulipas would be the first states to implement the reforms. Municipalities would retain their powers during the transition period. According to the SEGOB the single command reform could be fully implemented nationwide within eight years.

Source: Mexican Senate

Federalism and Public Security: The Link to States and Municipalities

25. **The federal government strengthens the capacity of state and municipal security institutions through 27 national priority programs.** These programs cover a wide range of areas relating to crime and violence prevention, security service professionalization and technical upgrading. Specific program areas include preventing violence and juvenile delinquency through citizen participation; strengthening and professionalizing local public security institutions; building capacity to assess and evaluate integrity; implementing strategies to combat kidnapping; supporting access to justice for women; introducing computerized ballistic fingerprinting and weapons tracing; strengthening human and technical capacities within the national penitentiary system; improving the national telecommunications network, maintaining the national information system, emergency call services and the anonymous complaint call service; and advancing forensic genetics.²⁴

26. **These programs enable states and municipalities to obtain greater funding from the federal government.** They are financed through FASP, SUBSEMUN and SPA funds administered by the SESNSP. The administration of federal security transfers, as with many of the funds included in Ramo 33, is highly politicized.

²⁴ Secretaría de Gobernación. Fondo de Aportaciones para la Seguridad Pública. México DF, visitado el 27 de abril del 2015 en <http://www.secretariadodejecutivo.gob.mx/fondos-subsidios/fasp.php>

27. **FASP's 2015 budget of MXN 8.19 billion is distributed among the states on the basis of eight criteria.**²⁵ Under the first criterion, a minimum guaranteed amount of funding is made available to all states. This total amount is equal to the one allocated in fiscal year 2010, or MXN 6.92 billion. The difference, MXN 1.27 billion in 2015, is distributed according to a formula which assigns different weights on the basis of established variables. Each variable is determined according to a distinct algorithm. For example, the population index takes into account the state's population and proportion of urban poor, as well as the influx of tourists. The crime index factors the rate of homicides, extortions, kidnappings and theft.

$$\begin{aligned} \text{FASP Allocation per State} = & \text{Guaranteed Amount} + (0.25 * \text{Population}) + (0.25 * \text{Crime}) + \\ & (0.10 * \text{Integrity Control}) + (0.10 * \text{Public Security Information}) + \\ & (0.10 * \text{Execution of Resources}) + (0.10 * \text{New Penal System}) + \\ & (0.10 * \text{Penitentiary System}) \end{aligned}$$

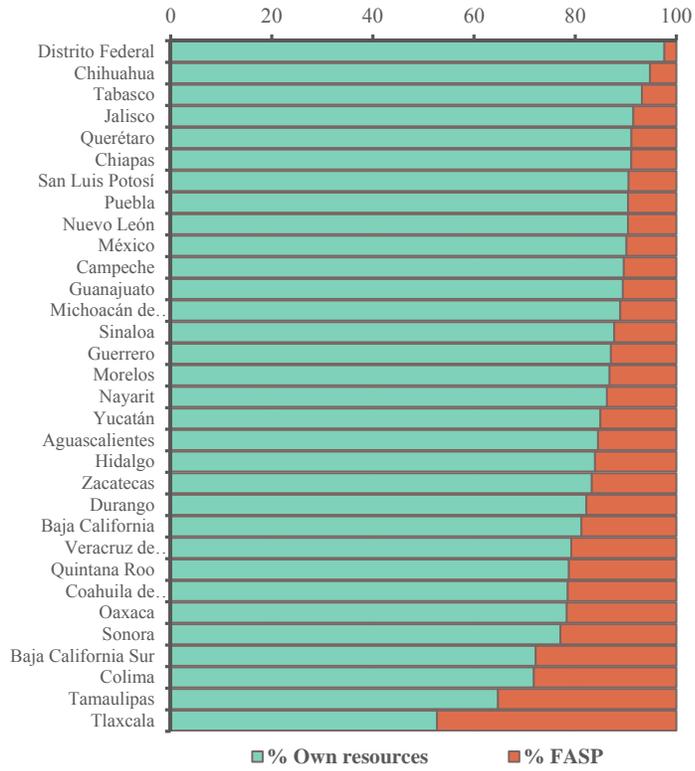
28. **FASP transfers represented just 11 percent of state security resources in 2013, the SPA accounted for 3 percent, and the remaining 86 percent was financed through state budgets.** From 2001 to 2013 the proportion of state security expenditures grew by 46.5 percent (Figure 11.11), while from 2011 to 2015 FASP and SPA grew at a rate of 0.9 and 0.6 percent, respectively.²⁶ Subsidies, transfers and grants are the main expenditure categories for the states (55.5 percent), followed by personnel services (35.6 percent) and public works (5.5 percent).

29. **The states that invest the most in security as a proportion of their budget are the Federal District, Chihuahua, Tabasco, Jalisco and Querétaro.** The main beneficiaries of the FASP between 2010 and 2015 were the State of Mexico, the Federal District, Veracruz, Jalisco and Chiapas.

²⁵ Diario Oficial de la Federación, 2 de enero del 2015. Criterios de distribución, fórmulas y variables para la asignación de los recursos del Fondo de Aportaciones para la Seguridad Pública de los Estados y del Distrito Federal del Ejercicio Fiscal 2015 y el resultado de su aplicación. México D.F., visitado el 27 de abril del 2015 en http://dof.gob.mx/nota_detalle.php?codigo=5377963&fecha=02/01/2015

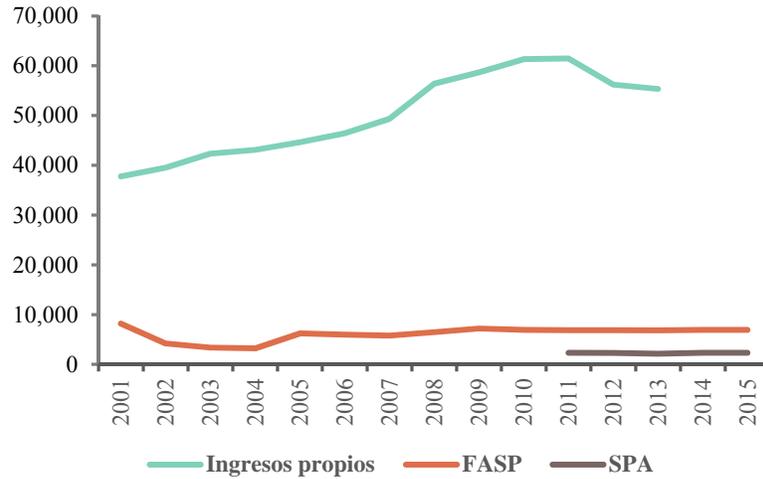
²⁶ Information on security spending by states from their own sources and municipalities was taken from INEGI. However, due to data quality limitations, the data for 2011, 2012 and 2013 were calculated based on data from previous years.

Figure 11.11: Comparison of State Spending on Security



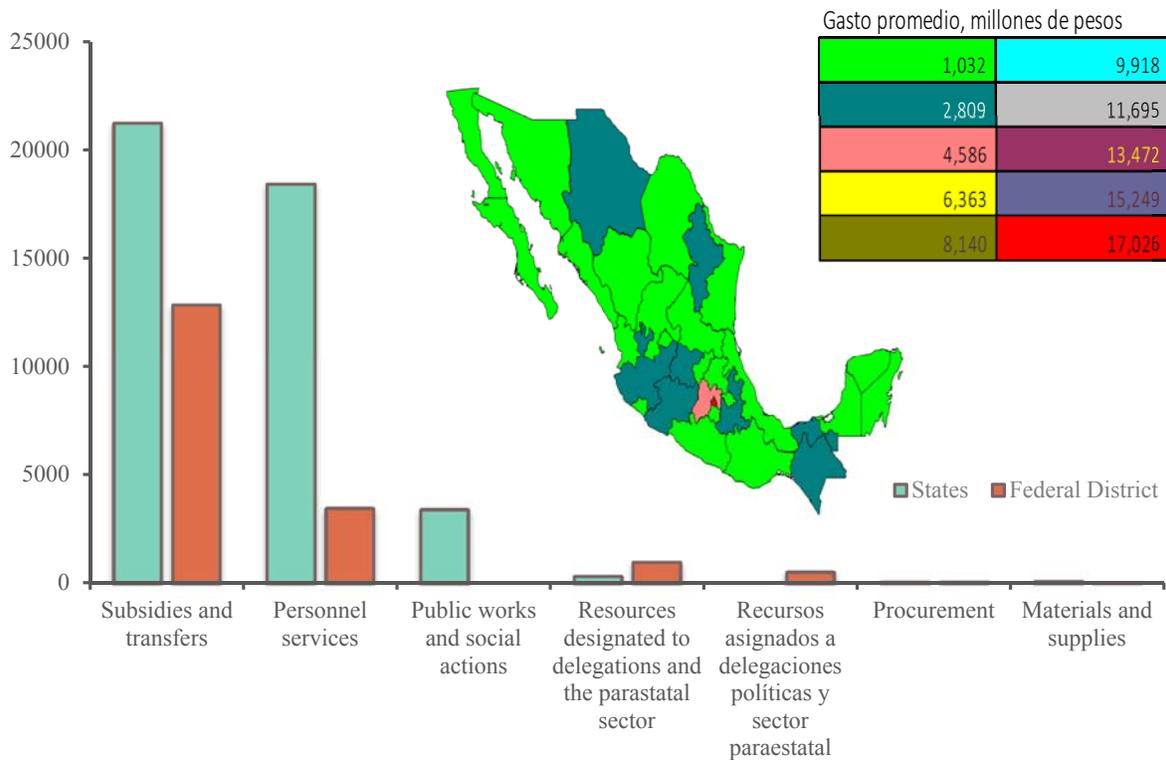
Source: Ethos Laboratorio de Políticas Públicas

Figure 11.12: Federal Transfers to States for Public Security (MXN Million)



Source: INEGI; Ethos Laboratorio de Políticas Públicas

Figure 11.13: State Spending on Public Security from Own Resources, 2010



Source: INEGI; Ethos Laboratorio de Políticas Públicas

30. **The federal government transfers grants to municipalities and delegations of Mexico City through SUBSEMUN.** Like FASP, SUBSEMUN funds must be used to support priority public security programs such as preventing violence and juvenile delinquency through citizen participation and by strengthening and professionalizing local public security institutions.²⁷

31. **SUBSEMUN's 2015 budget of MXN 4.89 billion will be distributed to 280 municipalities.**²⁸ Recipient municipalities are selected according to composite index that accounts for population, crime rates and territorial size. Municipalities and delegations in tourist destinations and border areas, as well as those affected by high crime rates in neighboring municipalities or delegations, receive priority funding.

32. **Between 2001 and 2013 municipal security spending rose by 691 percent, while in the past five years SUBSEMUN funding has decreased by 0.1 percent.**²⁹ More than half of municipal expenditures went to public works and social policies, followed by personnel services (27 percent) and

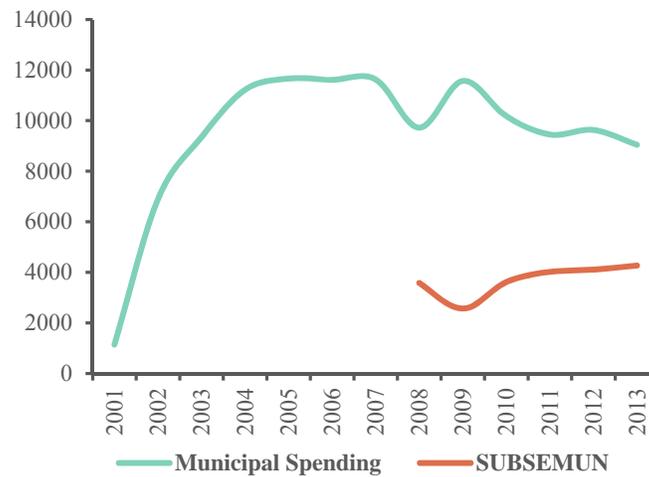
²⁷ Diario Oficial de la Federación, 30 de enero del 2015. Reglas para el otorgamiento de subsidios a los municipios y, en su caso, a los estados, cuando tengan a su cargo la función o la ejerzan coordinadamente con los municipios, así como al gobierno del Distrito Federal para la seguridad pública en sus demarcaciones territoriales. México DF, visitado el 27 de abril del 2015 en http://www.dof.gob.mx/nota_detalle.php?codigo=5379981&fecha=30/01/2015

²⁸ Diario Oficial de la Federación, 15 de enero de 2015. Acuerdo por el que se da a conocer la lista de municipios y demarcaciones territoriales del Distrito Federal elegibles para el otorgamiento del Subsidio al que se refiere el Artículo 8 del Presupuesto de Egresos de la Federación para el ejercicio fiscal 2015, y la fórmula utilizada para su selección. México D.F., visitado el 27 de abril del 2015 en http://www.dof.gob.mx/nota_detalle.php?codigo=5378563&fecha=15/01/2015

²⁹ Information on security spending at the municipal level should be regarded with caution due to irregular reporting and other data limitations.

general services (11 percent). In 2010, the municipalities that invested most resources in public security were Aguascalientes, Acapulco, Puebla, Leon and Ciudad Juarez.

Figure 11.14: Federal Transfers to Municipalities for Public Security



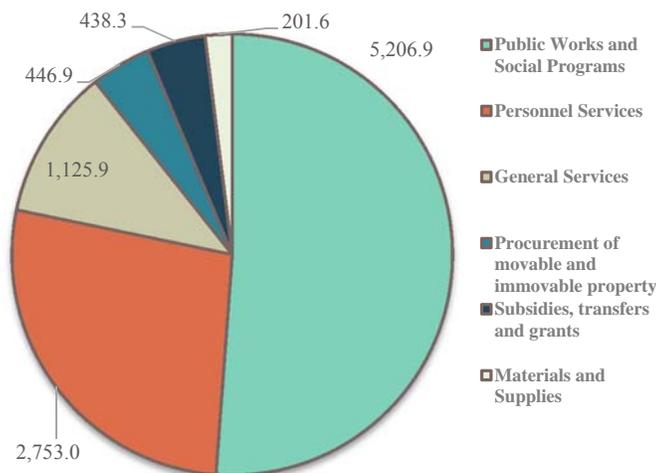
Source: INEGI; Ethos Laboratorio de Políticas Publicas

33. **The SPA was established in 2011 to assist states and municipalities in reorganizing their police forces under the single command structure.** The SPA provides recruitment, training, certification and equipment support to facilitate the accreditation of police under the new command structure.³⁰ The SPA's 2015 budget is MXN 2.76 billion. Funds are distributed based on variables such as population, territorial size, a crime index similar to the one used for the FASP, and progress in implementing the. The states that received the largest amount of SPA funding in 2015 were the State of Mexico, the Federal District and Veracruz.³¹

³⁰ Secretaría de Gobernación. Subsidio para la Policía Acreditada. México D.F., visitado el 28 de abril del 2015 en <http://www.secretariadodejecutivo.gob.mx/fondos-subsidios/spa.php>

³¹ Diario Oficial de la Federación, 13 de febrero de 2015. Acuerdo por el que se establecen los lineamientos para el otorgamiento del subsidio a las entidades federativas para el fortalecimiento de sus instituciones de seguridad pública en materia de Mando Único Policial para el ejercicio fiscal 2015. México D.F., visitado el 28 de abril del 2015 en http://dof.gob.mx/nota_detalle.php?codigo=5382023&fecha=13/02/2015

Figure 11.15: Spending on Security by Municipalities and Administrative Units of the Federal District, 2010



Source: INEGI; Ethos Laboratorio de Politicas Publicas

34. **Federal public security transfers to states and municipalities are subject to a number of implementation challenges.** The Superior Audit Office of the Federation (*Auditoría Superior de la Federación*, ASF) has conducted 505 audits of FASP and SUBSEMUN funds, which resulted in 5,171 recommendations for improvements.³² These are summarized in Table 11.2.³³

Table 11.2: Challenges in the Administration of Federal Public Security Subsidies

Phase	FASP	
Planning	<ul style="list-style-type: none"> States do not receive sufficient assistance from the Executive Secretariat of the National System of Public Security (<i>Secretaría Ejecutiva del Sistema Nacional de Seguridad Pública</i>, SESNP) and/or verification in developing the crime and violence diagnostics necessary to receive FASP funds. As a result, diagnostics are either unavailable or they are elicited more as process formality rather than a substantial exercise. This results in rescheduling transfers and further delays in the application of funds to their designated objectives. 	
Resource Allocation	<ul style="list-style-type: none"> States are guaranteed a significant portion of the fund without the application of the distribution formula; The large number of variables in the distribution formula makes it difficult to ascertain how they affect the distribution of funds; 	<ul style="list-style-type: none"> Clear criteria do not exist to determine the number of municipalities receiving funds; The eligibility formula on the basis of which funds are allocated is public, but the process according to which municipalities are awarded funding is not; For some municipalities the data used in the distribution formula are not available.

³² FASP has had 299 audits, which resulted in 4,124 recommendations. SUBSEMUN has been subjected to 206 audits, which resulted in 1,047 recommendations. Auditoría Superior de la Federación. Sistema Público de Consulta de Auditorías. Visitado el 27 de abril del 2015 en <http://www.asfdatos.gob.mx/>

³³ ASF, 2013. Diagnóstico sobre la Opacidad del Gasto Federalizado. México, D.F., visitado el 30 de abril del 2015 en http://www.asf.gob.mx/uploads/56_Informes_especiales_de_auditoria/Diagnostico_sobre_la_Opacidad_en_el_Gasto_Federalizado_version_final.pdf

Disbursement	<ul style="list-style-type: none"> • Much of the data on which these variables are based uses information that is neither public nor available in disaggregate forms in the public domain. • Long approval periods in signing disbursement agreements undermine the timely execution of funds; • Some states do not have designated bank accounts for the administration of FASP transfers. 	<ul style="list-style-type: none"> • Long approval periods in signing disbursement agreements undermine the timely execution of funds; • Some municipalities do not have designated bank accounts for the administration of SUBSEMUN transfers; • Clear deadlines are not established for the transfer of resources.
Execution	<ul style="list-style-type: none"> • The procurement of goods and services for public works is carried out through direct contracting rather than competitive public tenders; • The multiplicity of implementing agencies and lack of a supervisory authority leads to incomplete information on the purposes for which funds are spent. 	<ul style="list-style-type: none"> • The procurement of goods and services for public works is carried out through direct contracting rather than competitive public tenders;
Accounting and Oversight	<ul style="list-style-type: none"> • Financial management information systems (FMIS) are lacking to generate and maintain financial reports; • Some states do not submit timely and complete reports on FASP implementation to the SESNSP and SHCP; • There is also little or no public disclosure of these reports. 	<ul style="list-style-type: none"> • Goods and services procured with SUBSEMUN funds are not properly registered; • Local accounting records do not correspond with what is reported to the SHCP.
Performance	<ul style="list-style-type: none"> • The number and quality of performance indicators is insufficient to assess FASP impact; • The SHCP has not instituted sanctions for delays in submitting quarterly reports on the execution of FASP funds. 	<ul style="list-style-type: none"> • The delivery of reports to SESNSP and SHCP is irregular and reports often present incomplete information; • Databases with the information required for reports are improperly maintained and/or assessed.
Evaluation	<ul style="list-style-type: none"> • States do not verify compliance with objectives and goals; • The annual progress report is either absent or obtained solely as an administrative task. 	<ul style="list-style-type: none"> • Municipalities receiving SUBSEMUN funds do not formerly evaluate impact or results; • SESNSP has not established performance indicators for SUBSEMUN.

Source: World Bank summary based on information from the ASF and *Ethos Laboratorio de Politicas Publicas*

TRENDS IN PUBLIC SECURITY SPENDING

35. **In examining trends in federal public security spending, this study relies on data from the public accounts (*cuenta pública*), which group government expenditures on the basis of budgetary functions.** This methodology can account for spending across all branches of the federal government. In 2013, three of the 28 budgetary functions were related to public security: (i) public order and internal security, (ii) justice and (iii) national defense. “Public order and internal security” includes programs and activities implemented by the federal government, states, and municipalities in areas such as crime prevention and investigation; police recruitment, training and equipment; and civil protection and disaster-risk management. “Justice” includes all spending on trials, from investigation and prosecution to hearings and decisions in civil, criminal, family, administrative, labor and electoral cases, as well as the

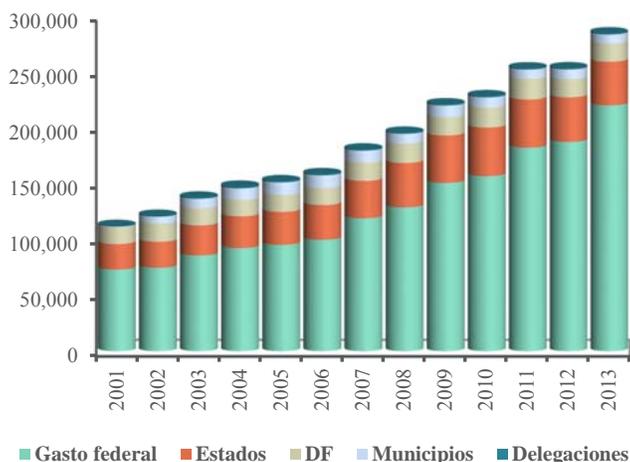
administration of the federal prison system. “National defense” includes expenditures on the Army, Navy and Air Force, as well as the administration of military affairs.

The Federal Government: Main Trends and International Comparisons

36. **Measured in constant 2010 MXN Mexico’s spending on public security increased by more than 200 percent between 2001 and 2013 (Figure 11.16).** While spending by municipalities and administrative divisions of the Federal District remained roughly constant over the past 3 years, federal spending grew from MXN 73 billion in 2001 to MXN 219 billion in 2013. State security expenditures doubled over the past decade to almost MXN 40 billion. This reflects Mexico’s increasingly centralized approach to combatting crime and violence. Rather than strengthening state and municipal capacity to provide public safety, the federal government increased the size of its central security apparatus. Reflecting this more centralized approach, the Ministry of Public Security was established in 2001 and integrated with the Ministry of Interior in 2013. Moreover, President Calderon’s strategy to combat drug trafficking relied heavily on the federal police, which led to a quadrupling of the federal police force between 2006 and 2013.

33. **An analysis of trends in public spending illustrates the increase in the size of the federal security forces.** 87 percent of public security expenditures between 2008 and 2013 went to current spending, 7 percent to capital investments other than public works, and 5 percent to public works (Figure 11.17). Total spending on public security amounted to 1.5 percent of GDP and nearly 8 percent of executed expenditures (Figure 11.18). Compared with other sectors, Mexico spent more on security than on health, science and technology, and security spending equals roughly a third of education spending, Mexico’s largest expenditure category. Public security and defense spending as a percentage of total spending (about 7 percent) is lower than the OECD average of about 10 percent. However, Mexico spends roughly 1 percent more on public security than the OECD average after public security and national defense expenditures are disaggregated (Figure 11.20)³⁴.

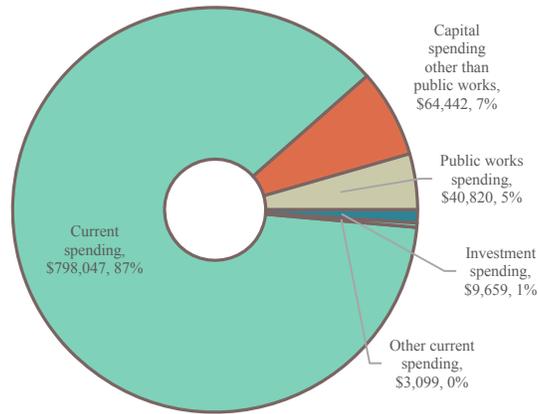
Figure 11.16: Spending on Public Security in Mexico, 2001-2013 (MXN Million)



Source: Cuenta Publica de la Federacion; SCHP; Ethos Laboratorio de Politicas Publicas

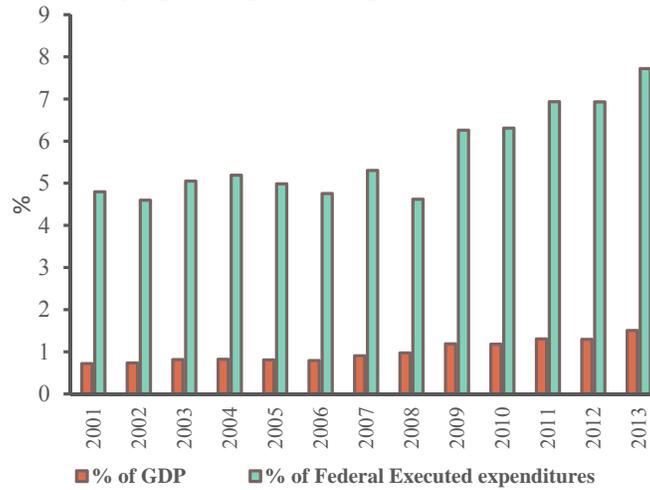
³⁴ OECD Data on Central Government Spending, retrieved from <https://data.oecd.org/gga/central-government-spending.htm>

Figure 11.17: Economic Analysis of Public Security Spending, 2008-2013 (2010 MXN)



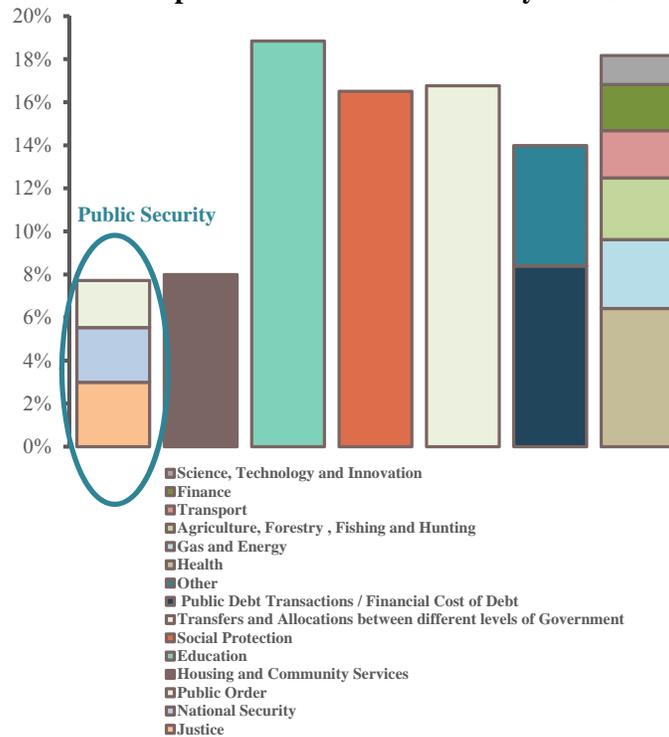
Source: Cuenta Publica de la Federacion; SCHP; Ethos Laboratorio de Politicas Publicas

Figure 11.18: Public Security Spending as a Proportion of GDP vs. Executed Expenditures



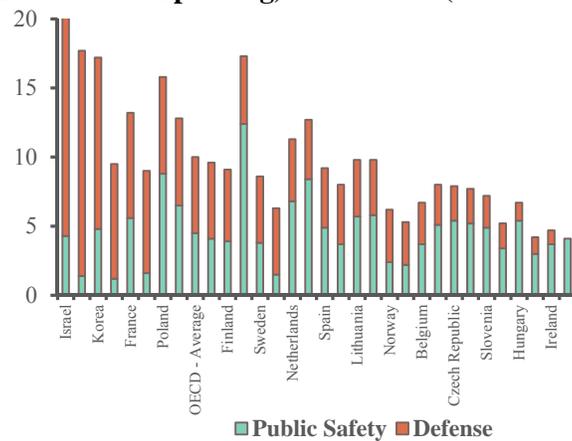
Source: Cuenta Publica de la Federacion; Ethos Laboratorio de Politicas Publicas

Figure 11.19: Executed Expenditures in Public Security and Other Sectors, 2013



Source: Cuenta Publica de la Federacion; SCHP; Ethos Laboratorio de Politicas Publicas

Figure 11.20: Spending on Public Safety and Defense in OECD (% of Central Government Spending) and Mexico (% of Executed Resources)



Source: OECD, Cuenta Publica de la Federacion

Federal Spending: Functional and Administrative Classification

37. In 2013 38.8 percent of total security spending was devoted to the justice system, 32.9 percent to national defense and 28.4 percent to public order and security (Error! Not a valid bookmark self-reference.). Within the “public order and internal security” budget line, the police account for 75 percent of expenditures, or MXN 42.25 billion, roughly equal to the amount spent on the military. Recurrent costs account for 95 percent of justice spending, with the remaining 5 percent dedicated to investments. Although

Mexico spends a relatively large share of its fiscal resources on the justice system, it has the lowest number of magistrates per capita in Latin America and almost a fourth of the OECD average.³⁵ As Figure 11.21 illustrates, about half of the personnel in the justice system is comprised of administrative staff. Moreover, if we add the percentage of technical staff to support judges and magistrates (e.g. actuaries, investigators) this percentage increases to about 90 percent.

Table 11.3: Functional Analysis of Federal Security Spending in 2013

FUNCTION	SUB-FUNCTION	Executed Budget (in millions of 2010 pesos)
Public Order and Internal Security	Police	MXN 47,244.7
	National Public Security System	MXN 14,968.0
	Civil Protection	MXN 127.7
	Other Public Order and Security Function	MXN 17.7
Justice	Delivery of Justice	MXN 42,925.3
	Imprisonment and Rehabilitation	MXN 26,030.9
	Administration of Justice	MXN 14,276.0
	Human Rights	MXN 1,999.9
National Defense	Defense	MXN 48,692.3
	Navy	MXN 18,903.6
	Defense Intelligence	MXN 4,743.7
TOTAL SPENDING BY CATEGORY		
	Nominal (in millions of 2010 pesos)	Percentage
Public Order and Internal Security	\$62,358.2	28.4
Justice	\$85,232.1	38.8
National Defense	\$72,339.7	32.9

Source: Cuenta Publica de la Federacion; Ethos Laboratorio de Politicas Publicas

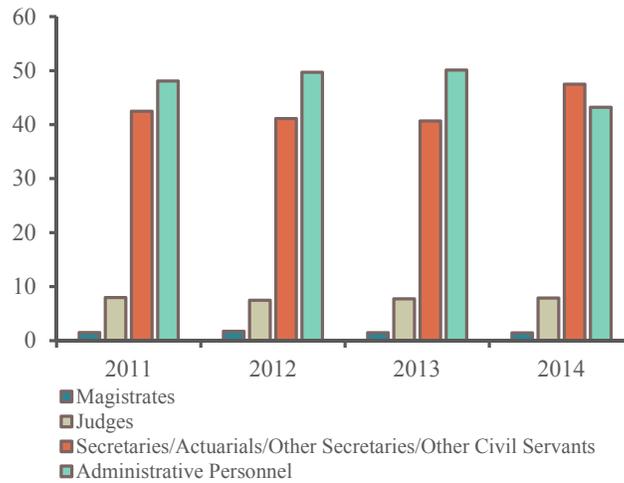
Table 11.4: Criminal Justice Personnel in Latin America and the OECD (per 100,000 inhabitants)

Country	Police	Judges	Prosecutors
El Salvador	343.7	10.8	4.08
Honduras	153.7	10.7	N/A
Mexico	355.0	4.3	6.8
Brazil	245.3	8.5	4.78
Colombia	346.5	10.1	8.43
Average for Selected OECD Countries	280	16.7	9.8

Source: UNODC, 2012

³⁵ Team calculations based on data retrieved from the United Nations Survey of Crime Trends and Operations of Criminal Justice Systems, retrieved from <https://www.unodc.org/unodc/en/data-and-analysis/statistics/crime> and <https://data.unodc.org/#>

Figure 11.21. Distribution of Personnel in the Justice System



Source: *Censos de Gobierno* 2012, 2014 (INEGI)

38. **In 2013 the Federal Government reported 99 budget programs related to public security.** Roughly 60 percent of spending is concentrated in four programs, with 18 percent of federal security resources going to an unspecified “other activities” category (Table 11.5). Here, as elsewhere in the security sector, the lack of access to information makes it difficult to gauge expenditure performance.

Table 11.5: Programmatic Analysis of Federal Security Spending, 2013

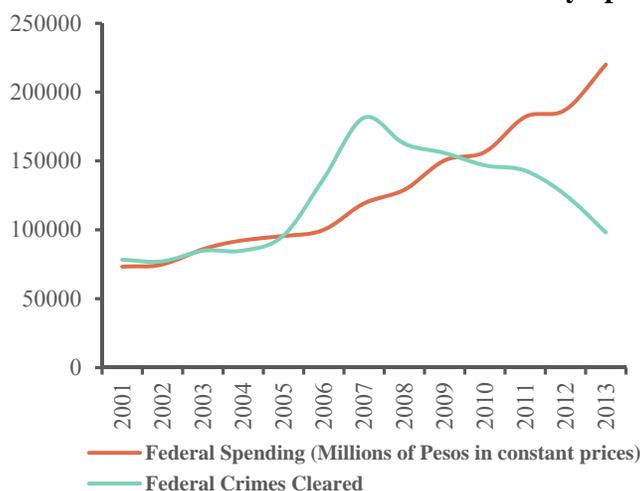
PROGRAM NAME	Percentage of the Total Budget	Nominal Spending (MXN millions)
Other Activities	18.1	43,100.67
Crime Prevention and Deterrence	17.5	41,690.43
National Defense	13.3	31,711.28
The Federal Prison System	11.2	26,696.86
The Navy	5.7	13,607.41
General Administrative Support	4.6	10,876.70
Federal Criminal Investigation and Prosecution	3.8	9,037.15
FASP	3.2	7,631.76
The Air Force	2.8	6,750.37
Federal Subsidies for Subnational Public Security Agencies, Municipalities, and the Federal District	1.8	4,393.17
The Development of Crime Prevention Tools	1.6	3,760.73
Defense Intelligence	1.4	3,317.79
Acquisition, Maintenance and Repair of Naval Assets	1.2	2,977.84
The Public Security Program of the Secretary of Defense	1.2	2,961.29
State Subsidies for Strengthening Police and Public Security Institutions and the Police Command Structure	1.0	2,471.12
The National Crime Prevention Program	1.0	2,416.68
Servicing and Maintenance of Military Infrastructure, Assets and Property	0.9	2,210.76
The Remaining 82 Spending Programs	9.6	22,948.14

Source: Cuenta Publica de la Federacion; Ethos Laboratorio de Políticas Publicas

PERFORMANCE IN POLICING AND JUSTICE SERVICES

39. **Spending on public security has increased by 200 percent in the past decade, but the evolution of homicide rates has been more complex.** Although homicide rates appear to be decreasing, the so-called dark number (*cifra negra*) of unreported cases suggests that only 6 percent of crimes are reported. This calls into question the apparent linear relationship between increased spending and declining homicide rates that emerges from a cursory look at Mexico's recent public security expenditures (**Error! Not a valid bookmark self-reference.2**). The following section will explore this relationship in greater detail by examining (i) the efficiency of public security spending; and (ii) changes in public security outcomes, including perceptions of police effectiveness and justice system performance. The analysis reveals that increases in public security expenditures have not necessarily been followed by improvements in crime and violence outcomes.

Figure 11.22: Homicide Rates and Public Security Spending



Source: Ethos Laboratorio de Politicas Publicas

Measuring Efficiency in Policing and Justice Services: A Brief Overview

40. **The extent to which greater resources translate into better public security outcomes depends on how efficiently public security services are delivered.** The efficient utilization of police personnel and equipment should ideally decrease not only crime, but also the fear of crime. Performance measures that simply consider variations in crime statistics and the number of criminal cases prosecuted do not reveal how well available resources have been employed to achieve these targets.³⁶ In examining the efficiency of public security spending in Mexico, it is thus important to determine the cost at which results have been achieved.

41. **Similar efficiency questions already inform public security policy in other countries.** Since 2003 the United Kingdom has incorporated metrics to measure public sector efficiency, and the police were one of the first agencies to employ efficiency measures to improve performance.³⁷ Worldwide, a large body of analytical work has examined the efficiency of national and local police forces, with a few studies concentrating on developing countries.³⁸

³⁶ Maguire, E. R. 2003. "Measuring the performance of law enforcement agencies." CALEA Update, 83, 84.

³⁷ Spottiswoode, C..2000. "Improving police performance." Public Services Productivity Panel, HM Treasury, London.

³⁸ *Ibid.*

42. **Efficiency studies of the police and criminal justice system consider the relationship between financing and other inputs and public security outputs and outcomes.** For instance, police can be considered efficient if they maximize outputs (e.g. case-clearance rates) and/or outcomes (e.g. citizen perceptions of police performance) for a given amount of inputs (financing and other resources). Measuring efficiency is critical to understanding the overall performance of the police and justice sector institutions. Without quantifiable metrics it would be very challenging for policymakers to efficiently and effectively allocate resources to address crime and insecurity.

43. **Various statistical techniques can be used to measure the efficiency of the police and justice system.** This study uses Stochastic Frontier Analysis (SFA) and Data Envelopment Analysis (DEA).

Police Efficiency

44. **State-level police data were collected using INEGI statistics for 2011-2014.**³⁹ Table 11.6 summarizes the input and output/outcome measures used in the analysis. Six types of inputs, one output and three outcomes were employed to gauge the efficiency of police services. Output and outcome measures reflect what the academic literature refers to as “the bottom line” in policing, or the collective operational goals of the police.⁴⁰ Subjective outcomes include citizens’ perceptions of police performance and corruption, as well as fear of crime. Objective outcomes reflect the intended results of the program or activity.

Table 11.6: Input, Output and Outcome Measures of Efficiency

Inputs	Outputs/Outcomes
Police	
# of Officers	% of crimes cleared
# of Cars	Perception of police performance (%)
Salaries (range)	% of victims who reported crimes
# of Computers	% difference between crimes occurred and crimes reported
# of Printers	Perception of insecurity (%)
# of Phones	
Justice System	
# of Judges and Magistrates	% Difference between cases opened and cases closed
# of Admin Staff	
# of Computers	
# of Phones	

Source: World Bank staff analysis

A Stochastic Frontier Analysis of Police Efficiency

45. **Table 11.7 presents the results of the Stochastic Frontier Analysis (SFA) models using output- and outcome-dependent variables.** This summary only includes statistically significant results. The table includes the coefficients of the production function estimated via a log-linear stochastic frontier model using the percentage of crimes reported as the dependent variable. The remaining columns use a log-linear stochastic frontier model with the outcome measures listed in Table 11.6 as dependent variables.

³⁹ INEGI’s *Censos de Gobierno* collect data on human, capital and financial resources by function of government at *entidad federativa*. The information can be retrieved from

<http://www.inegi.org.mx/est/contenidos/proyectos/censosgobierno/default.aspx>

⁴⁰ Many police organizations will use crime statistics as the sole measure of performance.

46. **An important aspect to consider when using SFA models is the amount of variance that is explained by inefficiency.** The presence of inefficiency suggests that a traditional ordinary least squares (OLS) regression is inadequate, and a frontier method like SFA should be employed.⁴¹ Table 11.7 reveals that gamma⁴² values are well above 50 percent; therefore, an SFA method is the appropriate means to estimate police efficiency levels.

47. **The correlation with the number of police officers was negative in all SFA models, with two exceptions.** The model for crime-clearance rates was positive and statistically significant, suggesting that a one percent increase in the number of police officers is associated with a 0.04 percent increase in crime-clearance rates. The relationship between the number of police officers and perceived insecurity was positive, but not statistically significant. The correlation with the percentage of crimes reported suggests a negative and statistically significant association between police force size and lower reporting of crimes⁴³. In both model specifications the statistical significance was not very strong ($p < 0.10$). In addition, crime-clearance rates increased from 2011 to 2014, suggesting that changes in the organizational structure of the police might have contributed to improved performance and a more efficient use of resources.⁴⁴

⁴¹ Agasisti, T. and C. Belfield. 2014. "Efficiency in the Community College Sector: Stochastic Frontier Analysis." New York: Columbia University.

⁴² The gamma value is calculated using the portion of the overall variance ($V_i = u_i + v_i$); gamma is calculated as: u_i/V_i . (Agasisti and Belfield, 2014).

⁴³ This finding suggests that organizational structural characteristics might lead to lower levels of reporting despite having a higher number of police officers. More research is needed on the organizational structure of police forces to ascertain what internal factors might be driving levels of inefficiency.

⁴⁴ During the team's conversations with officials, they mentioned that the current government has worked to improve the organizational structure of the federal police in an effort to address the most serious crimes more effectively.

Table 11.7: SFA Policing Analysis

	Crime Clearance Rate (log)	Perception of Police Performance (log)	Perception of Insecurity (Security)	Percentage of Reported Crimes	Difference between Crime Rate and Reporting Rate (%)
Total # Police Officers (log)	0.0452*	-0.0915	0.0729	-0.0720*	-0.0565
	[0.0263]	[0.0838]	[0.0762]	[0.0377]	[0.0491]
Salary (log)	-0.00724	-0.0386	0.122	0.129*	0.191*
	[0.0663]	[0.116]	[0.137]	[0.0753]	[0.102]
Total # of Vehicles (log)	-0.0690*	-0.00345	-0.0308	0.0612*	0.0409
	[0.0419]	[0.0471]	[0.0829]	[0.0356]	[0.0491]
Total # of Computers (log)	0.0953**	-0.0862*	0.0108	-0.0393	-0.0508
	[0.0374]	[0.0496]	[0.109]	[0.0364]	[0.0368]
Total # of Printers (log)	-0.0530**	0.112**	0.0445	0.0344	0.0283
	[0.0269]	[0.0447]	[0.0769]	[0.0481]	[0.0550]
Total # of Phones (log)	-0.0131	-0.00419	-0.0644	-0.0601**	-0.0641*
	[0.0117]	[0.0312]	[0.0422]	[0.0237]	[0.0364]
Year = 2012	0.0775*	-0.0478	0.114	-0.103	-0.125
	[0.0442]	[0.100]	[0.0809]	[0.0765]	[0.0890]
Year = 2013	0.0263	0.0636	-0.0270	-0.152	-0.201
	[0.0734]	[0.0923]	[0.128]	[0.114]	[0.129]
Year = 2014	0.00553	0.393***	-0.0653	-0.325**	-0.498***
	[0.0806]	[0.0975]	[0.166]	[0.156]	[0.186]
Constant	4.609***	3.892***	2.405	2.946	1.506
	[0.897]	[1.398]	[1.915]	[2.411]	[1.960]
mu	-200.7***	0.501***	1.001**	1.402	0.97
eta	0.37	-.073	.008	.056	.10
gamma	0.99	.68	.82	.573	0.50
Observations	96	96	100	100	100

Source: World Bank staff calculations using data from Censo de Gobierno, INEGI, and Secretariado Nacional de Seguridad Publica, 2011-2014

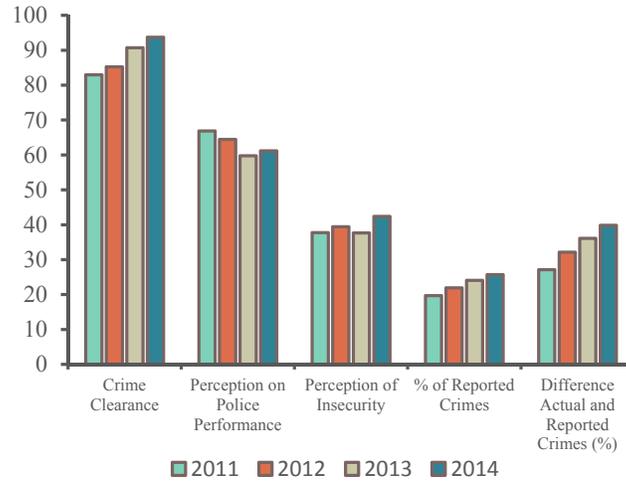
Note: Battese and Coelli (1992) specification. Parameters: /mu represents the estimated mean of the truncated normal distribution of the inefficiency term; /eta represents the estimation of the change of the inefficiency term over time; /gamma is the portion of overall variance (%) that is explained by the inefficiency term. Std. errors in brackets. * p<0.10, **p<0.05; ***p<0.01.

48. **Figure 11.23 presents the mean police efficiency scores for each state between 2011 and 2014.** The results indicate a general improvement in the efficiency of police outputs and outcomes. A notable exception, however, is citizen perceptions of police performance, which decreased from 2011 to 2013, then increased slightly in 2014. It is likely that improved organizational structures and processes to curb crime and insecurity have contributed to greater levels of output efficiency. However, given the high percentage of crimes that go unreported in Mexico, these efficiency scores only account for the small amount of crimes cleared by the police. Examining state-level differences between the crime rates and the number of crimes reported (Table 11.8), suggests lower levels of efficiency than the data would otherwise indicate.

49. **An analysis of public perceptions of insecurity and police performance reveals significant heterogeneity at the state level, as well as an urgent need to improve outcome indicators.** According to the literature on police organization and efficiency, results for outcome measures are typically lower than for output measures. The may be due the tendency of modern police forces to provide a broad range of services to citizens beyond law enforcement, which include reducing citizens' fear of crime and improving

the overall quality of life within communities. These desired outcomes, as opposed to outputs, are generally outside the direct control of police and may not reflect the performance of the police as an organization. Outcomes, however, are more narrowly construed and should more closely reflect the extent to which the police force is executing its core functions.⁴⁵

Figure 11.23: Mean Police Efficiency Scores for States, 2011-2014



Source: World Bank staff analysis

⁴⁵ Moore, M. H. and A. Braga. 2003. The “Bottom Line” of policing: what citizens should value (and measure!) in police performance. Washington, DC: Police Executive Research Forum. Retrieved on May 29, 2015 from <http://www.policeforum.org/library/policeevaluation/BottomLineofPolicing.pdf>

Table 11.8: Police Efficiency Scores by State

State or District	Clearance Rate	Perception of Performance	Reporting Rate	Insecurity	Difference between Crime Rate and Reporting Rate
Aguascalientes	94	79	63	61	52
Baja California Sur	91	44	93	66	88
Baja California ⁴⁶					
Campeche	79	71	93	47	84
Chiapas	91	67	80	56	63
Chihuahua	89	42	91	25	86
Coahuila	96	64	81	33	57
Colima	29	66	90	39	79
Distrito Federal	88	42	88	32	79
Durango	91	63	82	26	65
Guanajuato	91	81	56	51	46
Guerrero	96	56	44	24	35
Hidalgo	94	49	75	46	61
Jalisco	92	67	63	48	56
Mexico	88	51	79	15	61
Michoacán	94	62	74	26	60
Morelos	93	53	74	19	64
Nayarit	88	88	70	42	55
Nuevo Leon	91	90	64	25	49
Oaxaca	93	69	63	35	46
Puebla	93	46	78	45	54
Querretaro	93	73	83	76	72
Quintana Roo	94	51	72	44	61
San Luis Potosi	57	71	58	33	49
Sinaloa	82	62	64	29	51
Sonora	89	70	80	61	61
Tabasco	89	67	66	28	52
Tamaulipas	86	75	67	20	55
Tlaxcala	89	57	84	59	64
Veracruz	92	59	83	32	56
Yucatan	94	88	79	86	75
Zacatecas	91	68	65	25	50
Avg.	87.65	64.23	74.26	40.45	60.84

Source: World Bank staff analysis

50. **The analysis reveals significant differences between states in terms of the perception of police performance.**⁴⁷ The only state that performed close to the frontier was Nuevo Leon (Figure 11.24). This may reflect recent organizational improvements within the local police force and more robust efforts to tackle crime and improve the security situation in Nuevo Leon.⁴⁸

51. **The map showing the levels of perceived insecurity among the population can be considered a proxy for the ability of police to control crime.** The relatively low levels for this outcome may be explained in part by the length of time it takes police to manage a difficult security situation and for

⁴⁶ Scores are not provided for Baja California due to data availability issues.

⁴⁷ Perceptions of police performance capture the percentage of people who think the police are performing according to their expectations.

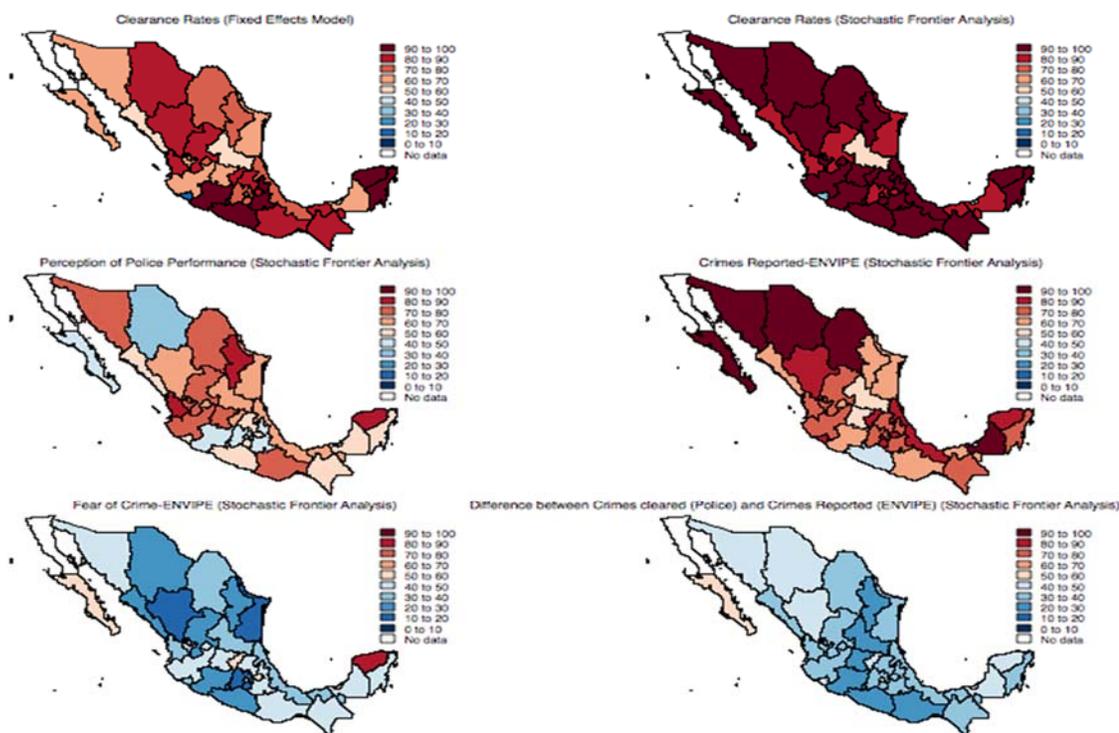
⁴⁸ Gutierrez, E.. 2015. “¿Bajó la violencia?” Nexos. Retrieved on May 29, 2015 from <http://www.nexos.com.mx/?p=24035>

perceptions of crime to decline. Perceived insecurity is a subjective measure that may or may not reflect the police’s ability to manage and reduce crime.⁴⁹

52. **The map showing the rate of crimes that occurred versus crimes reported also reveals a significant degree of heterogeneity among states.** The fact that the percentage of crimes reported is a subjective measure may explain the high variation in results. There are many reasons why an individual might choose not to report a crime, and while victimization surveys are useful in estimating the “dark number” of unreported crimes, they do not always capture these reasons. However, public confidence in the police is likely to have a major influence on reporting rates.

53. **The police do not operate in isolation, and numerous exogenous and endogenous factors may affect their efficiency.** Exogenous factors include a state’s geography, poverty and inequality levels, population density, education indicators and the nature of the local political economy. Endogenous institutional factors, such as the rank structure or the management of police assets, may also affect efficiency. Efficiency improvements between 2011 and 2014 may reflect organizational reforms within the police; however, a more detailed analysis will be required to fully understand and account for the various internal and external factors that influence police efficiency.

Figure 11.24: Maps of Police Efficiency Scores for States



Source: World Bank staff analysis

⁴⁹ Moore, M. H. and A. Braga. 2003. *The “Bottom Line” of policing: what citizens should value (and measure!) in police performance*. Washington, DC: Police Executive Research Forum. Retrieved on May 29, 2015 from <http://www.policeforum.org/library/policeevaluation/BottomLineofPolicing.pdf>.

54. **A DEA of police efficiency was conducted to complement the PSA described above.** One of the advantages of the DEA methodology is its flexibility, as it does not require any distributional assumptions about efficiency.⁵⁰ As a result, efficiency scores can be estimated using both inputs and outputs/outcomes in the same model.

55. **The DEA model incorporated six inputs and four outputs.**⁵¹ The mean efficiency scores were 78 percent for the variable returns to scale model and 72 percent for the constant returns to scale model. Efficiency levels vary from those of the SFA due in part to the inclusion of all input and output/outcome measures in the same model.

Justice System Efficiency

56. **This section presents the results of a statistical analysis of justice system efficiency similar to the analysis of police efficiency summarized in the previous section.** This is a preliminary study and should be regarded as a starting point for further investigation. One output and four inputs were employed in the analysis. Inputs included the number of judges, administrative staff, computers, phones and buildings, and the output indicator was the percentage difference between cases opened and closed. These are identified in Table 11.6. Table 11.9 presents the preliminary results of the SFA and Corrected Ordinary Least Squares (COLS) models.⁵²

Table 11.9: Efficiency Scores for the Justice System

	SFA Model	COLS Model
Computers (log)	0.0288 [0.222]	0.489* [0.272]
Admin Staff (log)	-0.179** [0.0746]	-0.0520 [0.0877]
Judges and Magistrates (log)	0.198 [0.189]	-0.151 [0.229]
Phones (log)	0.118 [0.0872]	-0.212 [0.157]
Year = 2012	-0.370 [0.471]	0.781* [0.418]
Year = 2013	-0.455 [0.570]	1.018** [0.431]
Year = 2014	-0.914 [0.585]	0.309 [0.520]
Constant	3.913*** [1.296]	2.326** [1.008]
Mu	-6.38***	
Eta	1.96***	
Gamma	0.065	
Observations	92	92
Standard errors in brackets; *p<.10, **p<.05, ***p<.01		

Source: World Bank staff analysis

⁵⁰ Hjalmarsson, L., et al. 1996. "DEA, DFA and SFA: a comparison." *Journal of Productivity Analysis* 7(2-3): 303-327.

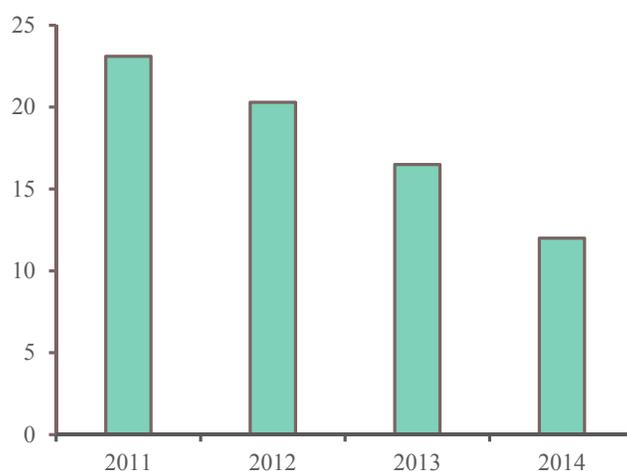
⁵¹ The DEA requires that the number of units in the analysis be at least three times greater than the number of inputs plus the output. Mexico has 32 states, which is three times greater than the sum of inputs and outputs [32 > 3 * 6 + 4]. As there are only a limited number of units, this limited the number of inputs/outputs used for the analysis.

⁵² It is worth noting that the low value of the gamma measure indicates that SFA might not be appropriate to estimate the production function of the justice system. Consequently, we present SFA results, but also run the model using the COLS to estimate efficiency.

57. **Of the inputs included in the analysis only technology (as represented by the number of computers) demonstrated a positive, statistically significant relationship with the output indicator.** The remaining measures were negatively associated with output, but these correlations were not statistically significant. Figure 11.25 presents the justice system's efficiency scores between 2011 and 2014. Efficiency levels have steadily declined since 2011, with a mean efficiency score of only 17 percent during the period of study.

58. **These are preliminary results and should be interpreted with caution.** A few states did not report values for certain measures. This significantly reduced the sample size, which was already limited due to limitations in terms of data availability. While the COLS model allows for the estimation of efficiency scores, its frontier method is deterministic; all deviations from the frontier are ascribed to inefficiency and do not account for randomness errors or other factors.⁵³ The sensitivity of the COLS model to outliers and the presence of large values in the dependent variable can make inefficiencies appear greater than they are.

Figure 11.25: Mean Efficiency Scores for the Justice System, 2011-2014



Source: World Bank staff analysis

59. **The mean efficiency scores obtained through DEA were very similar to those of the SFA.**⁵⁴ The mean efficiency score in the variable returns to scale model is 18 percent, and 10 percent in the constant returns to scale model. As in the SFA model the DEA results suggest a general decline in efficiency levels since 2011. Interestingly, over the period of study those states that implemented the New Penal Justice System reforms did not appear to have higher levels of efficiency than those that did not implement the reforms. However, the study does not capture the various institutional changes required in each state to accommodate the demands of the new penal system.

⁵³ Kumbhakar, S. C., et al. 2014. *A Practitioner's Guide to Stochastic Frontier Analysis Using Stata*. London: Cambridge University Press.

⁵⁴ Analyses were conducted using both the DEA and Free Disposal Hull (FDH) methodologies, through the latter is not reported here. FDH is less sensitive to outliers and provides a more realistic frontier since it does not require the convexity assumption of DEA. The mean efficiency estimates for the period of study were 38% out of 100%. These estimates are higher than the DEA estimates due to the nature of the envelopment process in FDH. See: Deprins, D., L. Simar, and H. Tulkens. 1984. "Measuring Labor Efficiency in Post Offices." In M. Marchand, P. Pestieau and H. Tulkens (eds). *The Performance of Public Enterprises: Concepts and Measurements*. Elsevier, 345-367.

Box 11.4: The New Penal Justice System

In June 2008 Mexico launched a major reform of its penal justice system. The overarching objective of the *Nuevo Sistema de Justicia Penal* was to transition from an inquisitorial to an adversarial judicial process. This entailed extensive changes to ten articles of the legal code, seven of which were related to the penal code. The principal reforms are expected to:

- Promote faster and more efficient judicial processes;
- Enhance the use of alternative justice mechanisms – less serious offenses will be resolved through mediation allowing for only the most serious offenses to be tried before a judge;
- Ensure that trials are made public;
- Secure the presumption of innocence and ensure that both the victim and the accused can present their defense arguments before a judge;
- Enhance due process – judges will monitor trials and ensure that they do not violate the legal rights of either the victim or the accused; and
- Increase the transparency of sentencing decisions by requiring judges to publicly explain the rationale behind their sentencing decisions.

These reforms are expected to reduce the number of offenders in pretrial detention, as less serious offenses will be increasingly resolved through alternative justice mechanisms. This comprehensive reform effort was to be implemented over the period from 2008 to 2016, and most states have already implemented it.

Source: Technical Secretariat for the Implementation of the Penal Reform

60. **Further research and analysis will be necessary to accurately assess justice system efficiency.** The findings presented in this chapter are limited by the nature of the analyses, which only assesses efficiency with respect to differences in the case-closure rate. The justice system in Mexico, however, involves a number of stages between preliminary investigations and sentencing. Estimating efficiency losses at each stage would help to identify bottlenecks within the judicial process. While estimates vary substantially, levels of impunity appear to have increased in recent years due in part to substantial delays in issuing verdicts.⁵⁵ Recent studies reveal large variations in impunity levels across states for intentional homicide cases, with estimates ranging from 25 percent in Baja California Sur to a remarkable 95 percent in Chihuahua.⁵⁶ It is likely that overall delays in the penal system are due to inefficiencies in earlier stages of the process; however, further research on justice sector efficiency is needed to support this.

61. **The availability of data is another limiting factor in the analysis.** The data used here only capture basic inputs such as the number of judges, police cars or computers. More detailed information with respect to the cost per case, salaries for judges and administrative staff, or the number of backlogged cases would enhance the accuracy of efficiency estimates. Moreover, differences in the types of cases tried are not captured in this analysis.

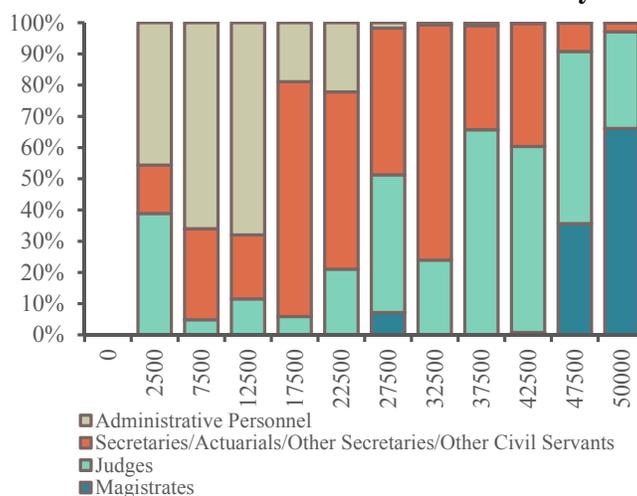
62. **With these limitations in mind, the study's findings suggest that inefficiencies in the justice system may result more from suboptimal organizational structures than a lack of resources.** The new penal reform effort mandates a number of organizational changes designed to improve the efficiency and effectiveness of the Mexican justice system. The effect of these changes may not be adequately captured in the current analysis. For example, available data suggest an important gap between the percentage of administrative and support personnel working in the justice system. As shown in Figure 11.21 above, about 90 percent of the staff working in the justice system focus on either technical or administrative support.

⁵⁵ Ramirez de Alba, L. 2012. "Seguridad y justicia penal en los estados: 25 indicadores de nuestra debilidad institucional." México, D.F.: México Evalúa.

⁵⁶ Ibid.

63. **The organizational structure is thus characterized by a pyramid with a very wide base formed by administrative and technical support staff which becomes very thin at the top.** Although judges and magistrates account for less than 10 percent of the total personnel in the justice system, they account for more than 50 percent of the highest salaries (exceeding MXN 50,000 per month), whereas administrative personnel account for about half of the low end of the salary range, between MXN 5,000 and MXN 15,000 per month (Figure 11.26).⁵⁷ The distance in terms of salary between the top and the bottom layers of the structural pyramid of the justice system suggest a high degree of income disparity or height.⁵⁸ Thus, from an organizational structure standpoint, the low vertical differentiation (e.g. layers in the hierarchy) and the large height may affect the overall efficiency of the justice system.

Figure 11.26: Distribution of Salaries in the Justice System (2014)



Source: World Bank staff analysis based on INEGI (2014)

64. **State-level variations in efficiency scores and impunity levels, as well as progress in implementing the New Penal System,⁵⁹ warrant further study.** Future analytical case studies should examine both organizational and discretionary factors, which may affect efficiency levels among states, both those that have implemented the new penal reform and those that have not. A more detailed understanding of how judicial resources are spent at the state and local level could form the basis for more effective expenditure policies.

Equity in Security Spending

65. **This section analyzes the tradeoff between equity and efficiency in security spending.** If a government attempts to achieve total equity in security spending, such that every citizen receives the same allocation regardless of local conditions, it will almost certainly undermine expenditure efficiency, particularly in a large and diverse country such as Mexico.⁶⁰ It is therefore important to determine whether scarce resources should be devoted to areas where security is already weakest or to areas where crime levels are currently lower, but threaten to rise.

⁵⁷ INEGI. 2014. *Censos de Gobierno*. The team has performed the same analysis for the years 2012 and 2013. To save space, the results are not included in the text, but are available from the authors upon request.

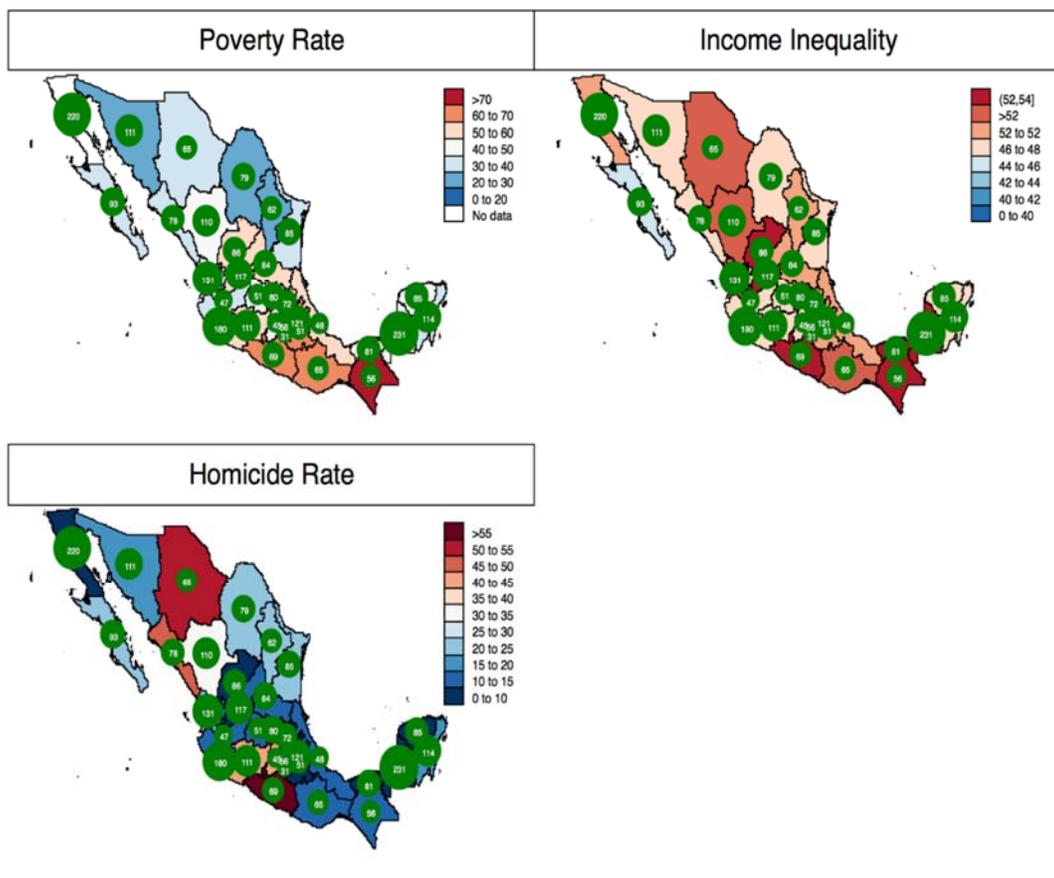
⁵⁸ Langworthy, R. H. 1986. *The structure of police organizations* (p. 132). New York, NY: Praeger

⁵⁹ To date, 27 of the 32 states currently have the new penal system in place (<http://www.setec.gob.mx/>)

⁶⁰ Osberg, L. 1995. "The equity/efficiency trade-off in retrospect." *Canadian Business Economics*, 3(3), 5-19.

66. A simple graphical representation reveals that federal security transfers⁶¹ do not appear to reflect differences in security levels or socioeconomic variables such as poverty and inequality. States with lower levels of income inequality appear to spend more on security, as do states with lower poverty rates. Even in states where levels of violence are very high, there does not appear to be a correlation between violence and security spending. It is worth noting, however, that there could be a lag between violence levels and security spending, which would not be captured in Figure 11.27.

Figure 11.27: Equity Maps



Source: World Bank staff analysis

67. The scatterplot presented in Figure 11.28 depicts interesting, albeit weak, relationships between security spending, socioeconomic indicators and levels of violence. The first plot shows a weak negative correlation between poverty levels and security spending. The next plot depicts a weak positive correlation between security spending and income inequality. Finally, the third plot reveals that a weak negative correlation between homicide rates and security spending. However, it is important to note that none of the correlations are statistically significant at conventional levels.

⁶¹ We employed data on transfers from *Ramo 33 de Aportaciones Federales*, which includes federal transfers to states for public security.

- ***In the short run***, the government should ensure that the procurement of goods and services for citizen security and violence prevention projects at the local level is transparent and public, as this could generate important cost savings. States and municipalities should also upgrade their financial management information systems to ensure that regular financial reports are produced.
- ***In the medium run***, the government should revise the allocation formula for FASP and make the SUBSEMUN allocation process more transparent. It should also set up a unified format for crime and violence diagnostics that would allow states and municipalities to prepare assessments against a set calendar, centralize their data, and inform monitoring and evaluation protocols.
- ***In the long run***, the “project cycle” for all activities financed by federal transfers should be extended to two years. Presently, states and municipalities have only 3-5 months to implement programs financed by FASP and SUBSEMUN. A longer period would allow for the execution of more effective projects.

Table 11.10: Recommendations for Improving the Administration of Federal Transfers

Project Cycle Stage	Proposed Solution
Planning	<ul style="list-style-type: none"> • Establish a unified format for crime and violence diagnostics that would allow states and municipalities to prepare assessments against a set calendar and centralize their data. The SESNP could work alongside state security bodies to standardize these procedures.
Allocation	<ul style="list-style-type: none"> • Revise the allocation formula for FASP to make the process more competitive; • Increase the transparency of the allocation process of the SUBSEMUN funds and revisit the allocation formula with a view to possibly simplifying it.
Disbursement	<ul style="list-style-type: none"> • Extend the project cycle for all activities financed by federal transfers to two years; • Mandate that states and municipalities set up designated bank accounts for FASP and SUBSEMUN transfers.
Execution	<ul style="list-style-type: none"> • Carry out all public security procurement via public tender; • Establish action plans for project delivery.
Accountability and Oversight	<ul style="list-style-type: none"> • Establish financial management information systems to generate regular financial reports for SESNP and SHCP; • Include a citizen engagement component in all projects to increase social accountability.
Performance and Evaluation	<ul style="list-style-type: none"> • Develop standardized monitoring and evaluation protocols that enable policymakers to track of projects deliverables, quantify outputs and outcomes, and conduct rigorous impact evaluations.

Disaggregate Security Spending, Including Prevention Programs

71. **The government should reevaluate its classification of crime and violence prevention spending.** A number of ministries dedicate a portion of their budget to crime and violence prevention, but aside from the National Crime Prevention Program (PRONAPRED) the specific amounts dedicated to crime and violence prevention are unclear. Data from the federal budget indicate that crime and violence prevention expenditures encompass spending on human rights, temporary employment, microfinance, and a range of other policy areas. As a result, state officials and municipal administrators can classify virtually every public investment as supporting violence prevention. State officials and municipal administrators should be required to justify budget allocations for crime prevention and detail the specific activities those resources will finance.

72. **Similarly, 18 percent of all public security financing is grouped under the nebulous “other activities” category.** Disaggregating this figure would enable a more accurate assessment of spending patterns and strengthen the credibility and comprehensiveness of the budget.

Increase the Efficiency of Federal Spending

73. **The authorities should focus greater attention on outcome measures, such as public perceptions of crime and police performance, rather than concentrating solely on output indicators such as the number of arrests or the case-clearance rate.** Mexico’s security services score significantly lower in terms of outcomes (e.g. perception of insecurity) than outputs (e.g. number of arrests). While important progress has been made in certain output measures, policymakers should take a holistic view of the results generated by the security sector.

74. **It is important to recognize that police forces are subject to the influence of both exogenous and endogenous factors that may affect overall efficiency levels.** Exogenous factors such as socioeconomic, geographic and political conditions require flexibility and adaptation. Endogenous factors, on the other hand, such as organizational structure and funding mechanisms,⁶² require continuous improvements. The government should continue its efforts to enhance the effectiveness of police forces by streamlining the organizational structure of the security sector and increasing the transparency of its financing systems.

75. **The authorities must fully assess the long-term fiscal implications of the new “single command” policy.**⁶³ This policy will entail the transfer of about 500,000 municipal police officers to state command. Shifting such a significant number of personnel is likely to have a large and continuous effect on expenditures such as salaries, pensions and training costs, which will put additional fiscal pressure on state governments. The centralization of the police structure should allow for more hierarchical control of police forces, increased professionalism and reduced police discretion, which are essential aspects of effective policing.⁶⁴ A comprehensive review of the organizational structure of the police forces, including those under the new “single command,” would yield important insight into the overall efficiency and effectiveness of security spending.

76. **This chapter’s analysis of the justice system, while preliminary, points to serious efficiency issues that warrant further examination.** The government spends a more significant share of its resources on the justice system than its output indicators would suggest. Indeed, the justice system accounts for the largest share of public security spending, and improving judicial efficiency will be a key challenge for policymakers. Mexico has among the fewest magistrates per capita in Latin America, which has resulted in a large backlog of cases. As noted above, although judges and magistrates account for less than 10 percent of the total personnel in the justice system, they account for more than 50 percent of the highest salaries. Meanwhile, administrative and technical staff cover 90 percent of personnel accounting for half of the low end of the salary range. This organizational structure may account for some of the inefficiency in the judiciary and warrants further study.

77. **Reforms under the new penal justice system will limit trials to more serious and violent crimes, and improvements are already observable in the number of offenders in pre-trial detention in those states where the new judicial reforms have been implemented.**⁶⁵ Nevertheless, increasing the

⁶² Maguire, E. R. 2003. *Organizational Structure in American Police Agencies: Context, Complexity, and Control*. SUNY Press.

⁶³ “La Conago aboga por mando único en el país.” *Informador.mx*. Retrieved on May 29, 2015 from <http://www.informador.com.mx/mexico/2015/575886/6/la-conago-aboga-por-mando-unico-en-el-pais.htm>

⁶⁴ Hirby, J.. “Police Discretion.” Retrieved on May 29, 2015 from <http://thelawdictionary.org/article/police-discretion-definition/>

⁶⁵ México Evalúa. 2013. *La Cárcel en México. Para Qué?* Mexico, D.F.: Mexico Evalua. Retrieved on May 29, 2015 from: http://www.mexicoevalua.org/wp-content/uploads/2013/08/MEX-EVA_INDX-CARCEL-MEXICO-VF.pdf

speed with which cases go to trial will be critical to improving judicial efficiency, and accomplishing this will require strengthening the capacity of judges and support staff to expedite cases.

78. **Finally, state-level variations in efficiency scores and impunity levels, as well as progress in the implementation of the New Penal System, warrant further study.** Future case studies should examine both organizational and discretionary factors that may affect efficiency levels among states in various stages of implementing the new penal system reforms. A more detailed understanding of how judicial resources are spent at the state and local level could form the basis for more effective expenditure policies.

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