Central America Social Expenditures and Institutional Review

Guatemala

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Education Global Practice
Health, Nutrition and Population Global Practice
Social Protection and Labor Global Practice
Latin America and the Caribbean Region

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Acronyms

ADePT	World Bank's Software Platform for Automated Economic Analysis
ALMP	Active Labor Market Program
CA	Central America
CCT	Conditional Cash Transfer
CEPAL	*Comisión Económica para América Latina* (Economic Commission for Latin America)
CUI	Single Identification Code
DEA	Data Envelope Analysis
EDSTATS	World Bank Education Statistics Database
ENCOVI	*Encuesta Nacional de Condiciones de Vida* (National Survey of Life Conditions)
HR	Human Resource
ICEFI	Central American Institute for Fiscal Studies
IGSS	Guatemalan Institute for Social Security
INDE	National Electricity Institute
INTECAP	Technical Institute of Training and Productivity
IVS	*Invalidez, Vejez y Supervivencia* (Disability, Old-Age, and Survival)
LAC	Latin American and the Caribbean
LMC	Lower Middle Income Country
MDG	Millennium Development Goal
MIDES	Ministry of Social Development
MINEDUC	Ministry of Education
MINTRA	Ministry of Labor
MMR	Maternal Mortality Rate
MOF	Ministry of Finance
MOH	Ministry of Health
NCD	Non-communicable disease
n.e.c.	not elsewhere classified
NGO	Non-Governmental Organization
PADEP/D	Professional in-service Teacher Training Program
PAYG	Pay-as-you-Go
PEC	Extension of Coverage Program
PHC	Primary Health Care
PPP	Purchasing Power Parity
PSE	Public Sector Efficiency
PSP	Public Sector Performance
RBB	Results-Based Budgeting
RUU-N	*Registro Unico de Usuarios Nacional* (National Unique Registry of Users)
SEGEPLAN	Secretary of Planning
SERCE	Secondary Regional Comparative and Explanatory Study
SIGSA	Health Management Information System
SISO	*Sistema de Informacion Social* (Social Information System)
SPL	Social Protection and Labor
SSEIR	Social Sector Expenditure and Institutional Review

TERCE	Third Regional Comparative and Explanatory Study
USAC	Universidad de San Carlos de Guatemala
USD	United States Dollars
WDI	World Development Indicators
WHO	World Health Organization

Acknowledgments

I.   Executive Summary

Overall: Social spending in Guatemala needs to achieve efficiency gains and increase to minimum levels to meet basic human development objectives. Current levels are so low that fiscal reform (in revenue generation and spending allocation) is urgently needed so that the State can fulfill its mandated coverage and quality in social service provision.

In the last ten years, Guatemala has had decent economic growth but failed to improve human development indicators or reduce poverty (which has increased). Guatemala's economic growth surpassed the Central American (CA) average over the past ten years, but most of the population did not benefit. Despite a recent decrease in inequality (albeit from among the highest levels in the world), poverty levels are stubbornly high, and rose recently, affecting almost 60% of the population. Guatemala's human development performance has been disappointing compared to Latin America, CA, and countries with similar income levels. There has been progress in primary enrollment, but completion rates and secondary enrollment continue to be low. Guatemala's undernourishment rate increased to 30% in the last decade – among the worst in the world, and three times the averages in Latin America and CA. Unemployment rates remain low, but a quarter of workers are underemployed, and 70% belong to the informal sector and have low earning.

One the major causes of this poor performance in poverty reduction and human development indicators is the limited presence of the State in the provision of key social public services, starting with very low resource allocations and inefficiencies in spending. Despite a slight recent increase, social public spending is the lowest in CA as a share of GDP (across all social sectors, including education, health, and pensions, and just above Nicaragua on social assistance), and above only Nicaragua in per capita real terms, and also among the lowest in the world. An allocation of just 8% of GDP is not surprising given that general government revenues are only 11% of GDP – also among the lowest in the world. Without an ambitious fiscal reform that would guarantee sufficient resources for public service provision, this situation is expected to remain in the future. In the meantime, there is significant room to improve the quality of spending (a tenth of approved budgets to social sectors is regularly left unspent each year) and its targeting (which overall favors the non-poor, mainly through regressive pension benefits), as well as spending tracking, evaluation and feedback mechanisms.

Education: Low and inefficient public spending, coupled with outdated legal and institutional frameworks, are significant barriers to increasing enrollment and providing quality education.

Regardless of the indicator used, Guatemala spends less on education than all other CA countries except Nicaragua. Between 2007 and 2013, total public spending on education did not keep pace with population growth, so per capita spending declined. Despite recent increases,

spending at the secondary level remains low, and funding gaps between Guatemala and CA peers have widened. The Government has heavily prioritized investing in pre-primary education, more than doubling the number of pre-primary teachers as enrollments increased by over 10%. Importantly, since 2009, net and gross primary enrollment rates have declined significantly. Many countries have seen declines after achieving universal primary education as a backlog of students age out, but in Guatemala, the decline is associated with high and persistent dropouts and decreases in initial enrollment. The net primary enrollment rate declined from 95.6% to 85.5% between 2007 and 2013. At the secondary level, 46% of students report dropping out mainly for financial reasons: low secondary public funding places a heavy financial burden on households. There are stark differences in secondary enrollment rates across income quintiles, ethnicity, gender, and departments. In 2013, boys outnumber girls two to one in some rural secondary schools. Enrollment differs only slightly among demographic groups at the primary level.

In spite of encouraging progress in learning, large inefficiencies and pervasive still low learning outcomes highlight the history of reduced policy focus on quality. In recent years, Guatemala has significantly improved learning outcomes. Recently published TERCE results show improvements in reading and math at both the 3rd and 6th grades between 2006 and 2013. These improvements in learning are likely partly the result of the increased number of teachers (by almost 50% at primary level). However, in the 2013 TERCE, the country was still well in the bottom half of Latin American countries. Guatemala has the highest repetition rate in CA, with one in eight primary students repeating a grade each year. Even when students are able to complete primary school, many do not acquire the necessary skills to advance. Recent data show that problems persist at the upper secondary level, where only one out of four graduating students achieved the expected level in reading and only one in ten achieved the expected level in mathematics.

Moving forward, more efficient, equitable and cost-effective public education spending will require some important policy and institutional changes, including greater use of the incipient monitoring and evaluation system. First, the current legal framework for the sector is outdated and needs updating to clarify and formalize responsibilities, reduce fragmentation of players, and address the core system needs. Second, while the quality of the professional in-service teacher-training appears to be good, the program's long run sustainability requires stronger financial planning and establishment of closer linkages with teachers' career progression. Third, at the tertiary level, the existence of only one public higher education institution constrains access and contributes to inequity.

Short term:
- The legal framework for the 1991 Education Law needs to be completed with new bylaws clarifying the roles and responsibilities of institutions and offices involved in education provision.

- Education policies would benefit from focused attention to issues of access, retention and completion, especially at the secondary level where dropouts are heavily concentrated. This could be done, for example, by leveraging the incipient monitoring and information system more and by piloting and evaluating specific interventions that attempt to redress the lack of financial incentives, especially in rural areas.

- To improve quality, it seems imperative to improve teachers' competencies; this can be supported through the flagship professional teacher training program (PADEP/D) and by strengthening the Ministry of Education (MINEDUC) monitoring and evaluation capacity at local levels. The latter will be more feasible if MINEDUC can leverage existing information systems, especially those that currently feed the school report cards that are available online. The challenge would be systematic and regular use of existing information systems to track students and policies, and ultimately for policy-making purposes.

- Improving equity would require, in the short run, rebalancing spending to increase the pro-poor profile of per student spending, targeting the most vulnerable, especially in the most rural and higher poverty areas. This could be achieved by strengthening programs and incentives (including financial) that most help to overcome barriers to enter and remain in secondary education and beyond, including scholarships.

Medium term:
- The most important institutional reform ahead is to enact a new Education Law that would support the modern needs of the Education system, and align it with several legal agreements approved after 1991: the Peace Accords, the Law of Executive Power Law (Community Participation), and the regulatory framework for Decentralization.

- In addition, access and quality issues need to be tackled by addressing infrastructure gaps at the secondary level, especially in rural areas, and by fostering a dramatic improvement in the quality of the teacher corps through improved processes for teacher recruitment, retention and evaluation. For instance, one possible way could be to de-compress teacher's wages by increasing financial incentives for the best performers which would make teaching a more attractive profession for many who value career and wage progression.

- The long-term sustainability of the professional in-service teacher training program (PADEP/D) requires more financing and closer linkages with career progression of teachers.

- The system would also benefit from greater access to subsidized tertiary education for low-income students, which would involve expanding access to public and private higher education institutions. This could be achieved, among other ways, through piloting and testing new scholarships/vouchers for students, and improving the quality standards that private providers must meet.

Health: Some progress but insufficient and delayed funding, as well as institutional capacity and governance challenges limit coverage and quality of services

Despite having among the lowest public spending on health relative to GDP in the Latin America and Caribbean (LAC) region, Guatemala has made some progress in improving health outcomes and in increasing coverage rates for certain services, but significant challenges remain. Guatemala's chronic malnutrition rate remains the highest in LAC and among the highest in the world. Maternal mortality has decreased but remains well above the LAC average. Non-communicable diseases have become the major cause of morbidity and mortality. Service utilization rates are significantly lower for the poorest and indigenous populations who tend to live in rural areas. Ministry of Health (MOH) standards for facility-to-population ratios would be met only if the population were still the same size as in the 50s. Even with the MOH's efforts to compensate for the inadequate availability of primary health care facilities through the use of mobile health teams, less than half of the population are covered by primary health care services as a result of the cancellation of the Extension of Coverage Program in February 2015 and the delay in rolling out the new institutionalized primary health care model. Quality of care also remains an issue, with shortages of health professionals and medical inputs. Guatemala's health personnel to population ratio in 2013 was only half of the World Health Organization (WHO) standard. There are frequent shortages in drugs and medical inputs in all facilities, especially in the major hospitals.

Insufficient funds are a major constraint to improving the coverage and quality of care, and there is also room for enhancing the efficiency of public spending on health. Guatemala has one of the lowest per capita health expenditures in the LAC region. The health sector budget is inadequate to address the significant coverage gaps and quality issues related to staffing and availability of essential inputs. While there is a clear need to increase public resources allocated to health and to reduce delays in the flow of funds, there are also several opportunities for improving the efficiency of health spending, particularly in human resource management and procurement of drugs and medical inputs. Specific examples include ghost employees, contract awards that do not meet technical standards and procurement guidelines, pharmaceutical firms that game the system, and uncoordinated purchases across key health institutions.

On the institutional side, there has been mixed progress in implementing the MOH's 2014-19 strategy which aims to contribute to universal health coverage. The MOH has made progress in: (a) training staff to strengthen service delivery and monitoring; (b) expanding implementation of integrated health service networks to improve coordination across the three levels of care from Guatemala City to selected areas in four other departments: Sololá, Huehuetenango, Quiche, San Marcos; (c) rolling out the new primary health care model which is based on a life cycle approach and goes beyond the maternal and child focus of the previous model; and (d) piloting results based budgeting (RBB), emphasizing the first 1000 days of life (pregnancy and the first two years of a child's life) based on the agreement with the Ministry of Finance (MOF) under the Zero Hunger Program - one of the Government's flagship programs. The MOH had originally planned to expand RBB to all Health District municipalities and hospitals based on cost centers by 2015. While some work has advanced in establishing cost centers, and improvements

have been made in the Health Management Information System (SIGSA), as well as in the results orientation of MOH reports to the MOF, progress in implementing the 2015-19 strategy has been less than planned mainly because of resource constraints and funding delays, cancellation of the Coverage Extension Program (PEC) without a service delivery transition plan, and limited institutional capacity at central and local levels.

The new Administration includes health as one of its three priority areas, and has prepared major strategies that need to be supported by concrete operational plans and resources. The current Government has officially launched its 2016-2020 strategy to reduce chronic malnutrition. It has also prepared a strategy to strengthen primary health care and drafted a health sector reform proposal. It has already launched a series of consultations with different stakeholders with regard to these proposed initiatives. Implementation of the nutrition strategy and the MOH's primary health care strategy will require additional resources to address existing significant coverage and quality gaps. This makes identifying ways to reassign and/or generate more funds for health and nutrition a key areas of focus for the proposed health sector reforms. Another important area of focus of the proposed reforms would be to improve the efficiency of health spending, including by expanding the use of results-based budgeting in the health sector.

In moving forward, the Government of Guatemala could consider the following recommendations in the health sector:

Short term:
- MOF and MOH could work together to identify and address key factors that impede funding flows from central to local levels. The MOF could also consider increasing spending ceilings in sectors that perform well against clear and transparent criteria.

- Identify and implement a transitional service delivery mechanism to quickly provide basic services to areas that have been affected by the PEC's cancellation and that are not yet covered by the new Primary Health Care Model.

- Prepare costed operational plans for the 2016-2020 nutrition and strengthening primary health care strategies and ensure sufficient budgets to support their implementation. While some funds could be reallocated based on efficiency gains from measures like those mentioned above, the MOF will need to allocate more resources toward main priorities in the sector if the Government wishes to reach its nutrition and health targets.

- Implement measures to reduce the cost of drugs, which could include adopting standardized, common bidding documents and a common essential drugs list for all public entities to increase economies of scale. Drug procurement savings could also be achieved by amending the procurement law so that suppliers who are awarded contracts and do not deliver on time under the Open Contract Mechanism are barred from bidding for the same lots after Health Areas and Hospitals obtain MOF clearance to purchase outside negotiated prices.

- Strengthen the MOH human resource data base to include disaggregated distribution of the MOH health workforce, their academic qualifications, skill levels and training need. These

data should feed into the development of a human resource strategy, and the data base used to monitor progress in implementing the strategy.

- Explore the feasibility of re-negotiating the collective pact with health workers. The MOH could consider offering long term contracts in lieu of annual ones, and providing non-monetary incentives or financial ones that are within its budget such as public recognition and special training opportunities.

Medium term:

- Develop, cost, and implement a phased and coordinated strategy to improve access to a comprehensive package of health and nutrition services through integrated networks (primary to tertiary levels) to progressively reach poor, rural, indigenous areas.

- Mobilize more resources and ensure timely flow of funds to enhance coverage and quality of services, and expand results-based budgeting in the health sector. The MOH in collaboration with the MOF could consider additional funding sources that would work in Guatemala's situation, drawing on experience in other countries.

- Develop, cost, and implement a Human Resource (HR) strategy that attracts and retains health workers, and that also addresses inequities in access. For example, the MOH could reclassify professional nurses to make their salaries commensurate with their qualifications and functions, and identify and address the main factors behind high dropout rates in nursing schools.

- Prepare and implement a costed action plan to strengthen pharmaceutical management, and develop an integrated public policy on medicines including a mechanism for ensuring availability of a package of essential drugs in primary health care facilities. An integrated, coordinated public policy on medicines, together with improvements in planning and budgeting, procurement, and other steps along the supply chain, could help reduce stock-outs of essential medicines.

Social Protection: There is need for increased spending in social assistance interventions, better coordination among implementing agencies, and revised targeting to ensure decent coverage of programs among the poorest.

Guatemala's Social Protection and Labor (SPL) spending has increased in real terms since 2007, and increased as a percentage of Gross Domestic Product (GDP) until 2010 but then settled back to 3%. Guatemala has all the key elements of an SPL system, including contributory programs (social security), non-contributory benefits directed to the most vulnerable groups, and labor market programs. However, coverage and resource allocation are not always appropriate, and the degree of implementation of the SPL components varies greatly. Overall, the country has slightly increased the amount of resources invested in SPL, in real terms and relative to the GDP, mostly on the social assistance components. SPL spending rose on average 7% per year in real terms from 6,412 million quetzals in 2007 to 9,928 million quetzals in 2014. As a percetage of GDP, SPL spending rose from 2.5% in 2007 to a peak of 3.3% in 2010, and then stabilized at 3%.

Spending in social security has remained stagnant in recent years and is one of the lowest in CA; the non-contributory component has low coverage and generosity, and is poorly targeted. Spending in the main contributory regime, Invalidez, Vejez y Supervivencia (IVS), has not improved in recent years, varying around 1.9 percent of GDP. This is the lowest social security share in CA. Coverage rose in absolute and relative terms so that 22.4% of the elderly are protected, but this is still amongst the lowest coverage in LAC. Equity remains an issue for both the contributive and non-contributive regimes, but adequacy of benefits is fair especially for low income workers in the contributory regime. The social pension has maintained relatively stable spending; it is less generous than other countries in CA. Targeting needs to improve, especially of the poorest two quintiles.

Two main challenges for social assistance are to increase spending, and to prioritize interventions that deliver more beneficial impacts to the poorest (such as the Conditional Cash Transfer (CCT)) over poorly targeted utility subsidies. CCT needs to improve its implementation performance. The adoption of the CCT model increased the resources spent in cash transfers paid directly to the poorest until 2010, with some beneficial impacts already seen in health outcomes and school attendance. Some of these outcomes have the potential impacts to impact poverty rates, which should be analyzed further. Nevertheless, the CCT program has implementation issues and suffered a budget cut - these need redressing to maintain and improve the results already achieved. The CCT also requires an increase in benefit levels (more important than further expansion of coverage which is already high) and changes in the benefit structure. The current flat benefit irrespectively of the number of children may not provide sufficient support to larger families, nor provide enough incentive to comply with transfer conditions for all children in the household. It would be advisable to change to a "per child" benefit as Honduras has done, and to revise the accountability procedures to achieve more transparency. A strong anchor with the RUU-N is an opportunity to position the CCT as the main platform for other social assistance interventions, some of which should be reconsidered to avoid duplication and create more fiscal space for the CCT. Given budget constraints, it may also advisable to restrict CCT coverage to the extreme poor (another recent change made in Honduras). Revising the conditionalities of the CCT is another aspect to consider; there is scope, for instance, to include new areas in the program like nutrition-related outcomes or secondary education. Additional fiscal space could also be obtained by reducing and phasing down untargeted utility subsidies, such as for electricity and transport.

The labor market sector faces important challenges derived from the nature of the workforce in Guatemala. An important labor market challenge relates to young people aged 25 years or younger, who currently account for 35% of the employed population. Demographic trends have created a lot of pressure to absorb large numbers of young people in the labor market. This has not been adequately tackled by labor market programs except for INTECAP, which faces financial constraints and obstacles to increasing resources for its programs. Intermediation programs are small and growing very slowly, and passive labor market interventions such as unemployment insurance schemes are not in place yet. The relatively small unemployment rate hides the

prevalence of this problem among some specific groups, mainly young people who have not completed secondary education. The main message is the need to design and carry out more interventions to link youngsters to the labor market; for instance, utilizing the platform provided by INTECAP's various packages of technical training, and also ensuring that INTECAP's training centers are effectively reaching the youth.

On the institutional side, the launching of the Ministry of Social Development (MIDES) provided a platform to manage the different programs of the sector under one umbrella; however MIDES has not yet been able to tackle technical deficiencies in implementation. MIDES gathers under its sector the most important programs in Social Assistance; however, it also inherited implementation shortfalls related to poor targeting mechanisms, irregular payments and transfers, and generally low institutional capacities to maintain consistent execution throughout the year and in all areas. Some progress has been accomplished through the establishment of SISO and RUU-N, but it is not enough. The sector also faces duplication issues with agencies implementing different interventions not coordinating roles, targeting mechanisms, and strategies. Coordination could enable a more integrated approach for different target populations (children, youth, elderly), and geographic areas (urban/rural). Even though some initiatives on this have started, MIDES has not consolidated itself yet as the coordinating mechanism across sectors and levels of government.

To tackle fragmentation, the completion and mandatory use of RUU-N by all agencies implementing social protection interventions is a must. Precisely to avoid fragmentation, improve targeting, and reallocate scares resources to those most in need (e.g., as subsidies or social pensions), RUU-N should be strengthened though legislation to mandate its use and by tying budget allocations to use; and used effectively as a policy tool to enable more efficient policy decisions. Improvements could be made also by identifying all beneficiaries in each household, estimating the type and number of benefits each family receives, and tackling structural deficiencies in the targeting and coverage of each program.

Short term:
- To improve coverage and generosity of the social security system, it would be important to undertake a thorough revision of the targeting of the social pension to ensure it benefits those most in need.

- To maximize the CCT's effectiveness, it is critical to stop coverage expansion, stabilize payments by ensuring an adequate budget allocation, and improve internal processes so that households receive transfers on time.

- Another consideration for the CCT is to consider restricting coverage to the extreme poor only, given current budget constraints.

- To improve active labor market programs (ALMPs), it is important to explore ways to increase resources allocated to training interventions. It is also critical to take stock and develop a plan to ensure there are employment services in major urban centers at least.

- To enhance coordination and efficiency of the SPL system, it is critical to complete the RUU-N within MIDES through agreements among remaining institutions for database sharing.

- It is also advisable to revise the targeting formula for interventions within RUU-N.

Medium term:
- Sustainability of the "Pay-as-You-Go" (PAYG) pension system requires that deficit gaps be covered.

- It is advisable to revise CCT benefit levels and conditionalities, and communicate the changes appropriately to beneficiaries.

- Utility subsidy reform could be contemplated, ideally to phase them down and reallocate the fiscal space to the CCT.

- INTECAP funding mechanism should be revised.

- The mandate of MINTRAB also could be revised to prioritize provision of core employment services (rather than executing social assistance programs like social pensions, which should probably migrate to MIDES).

- Once the RUU-N is completed, it is critical that its use becomes mandatory for by all social protection interventions, possible tying funding to its use as incentive to comply.

II. Context

Guatemala had modest economic growth in the last decade, mostly below the average for Central America (CA). From 2001 to 2015, Guatemala's Gross Domestic Product (GDP) growth averaged 3.5%, below the CA average of 3.9% (Figure 1). Guatemala and Panama were the only CA countries to maintain positive GDP growth in the past decade., Guatemala's GDP growth rebounded less well after the 2009 recession, averaging 3.7% from 2010 to 2015 – half a percentage point below the 4.2% CA average, and higher only than El Salvador (1.9%). Guatemala's GDP per capita grew only 1.1% on average between 2000 and 2015, the lowest in the CA region

Figure 1: GDP growth in Guatemala and Central America, 2001-2015
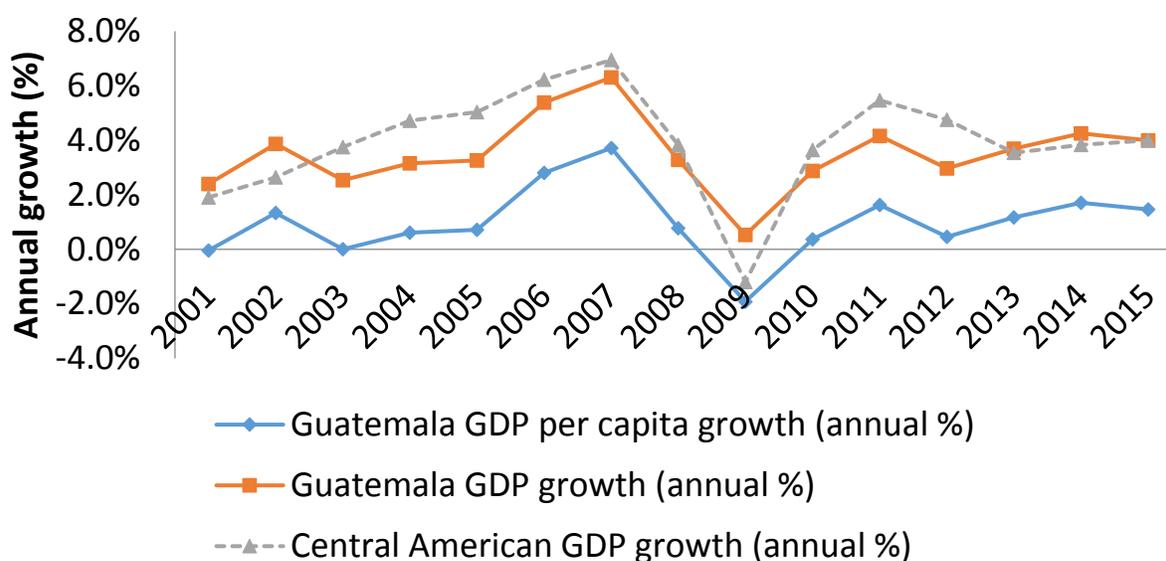
Source: IMF, World Economic Outlook Database, June 2016

Income inequality has fallen, but poverty has increased. In the 1990s, Guatemala was one of the poorest and most unequal countries in the Latin America and Caribbean (LAC) region. The country's social indicators were better only than Haiti's (World Bank, 2009). Inequality (measured by the Gini coefficient) has declined from 0.6 in 2000, to 0.56 in 2006 and 0.53 in 2014 (Figure 2). However, overall poverty rose from 51% in 2006 to 59% in 2014 (Figure 3). Extreme poverty declined slightly between 2000 and 2006 to 15.3%, but increased to 23.4% in 2014. The gap between rural and urban poverty narrowed slightly in recent years, but both overall and extreme poverty remain much higher in rural areas (71% vs 35% and 56% vs 29%, respectively). Income poverty is the highest in CA, surpassing even the 40% poverty level in Nicaragua, a country with a considerably lower GDP per capita (5,992 compared to 7,706 in 2015 PPP current international $, World Bank databank, 2016).

Figure 2: GINI coefficient 2000, 2006 and 2014   **Figure 3: Poverty Rate 2000, 2006 and 2014**
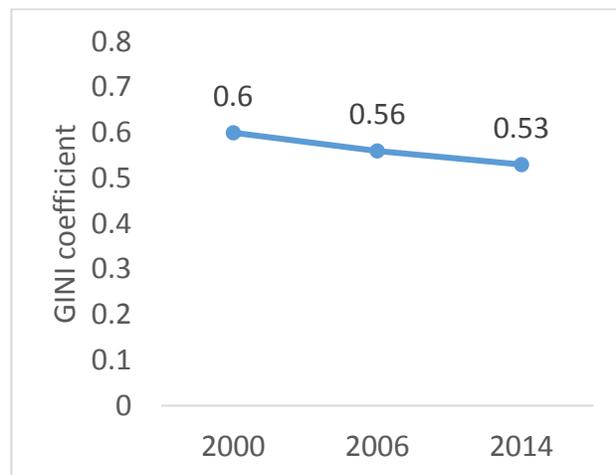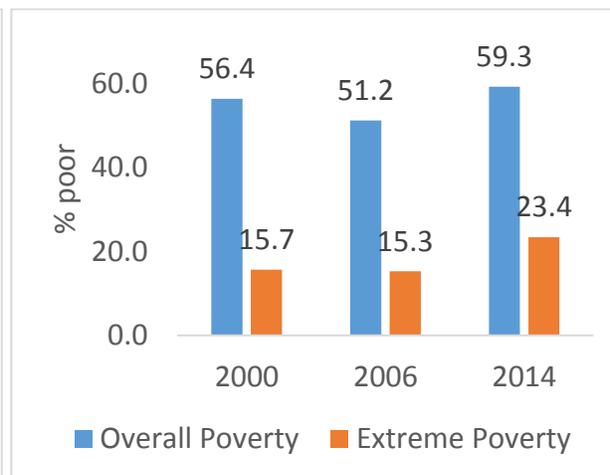
Source: Instituto Nacional de Estadisticas   Source: Instituto Nacional de Estadisticas

On average, LAC and CA countries, and six comparator countries[1] have better human development indicators and have made more progress than Guatemala. Table 1 compares trends in key education, health, and social protection and labor indicators with three comparator groups: i) the top 7 economies in the LAC region; ii) the remaining countries in the CA region; and iii) a set of 6 countries around the world that can be considered "comparator countries" based on economic and population criteria. In education, Guatemala has increased enrollment at all levels, but secondary enrollment and completion rates remain lower than the three comparator groups. Health indicators have slightly improved and are in the same ballpark as the other groups except for Guatemala's much lower percent of births attended by skilled workers, fewer hospital beds, and undernourishment rate which improved in the comparator groups but worsened in Guatemala from 27.7% in 2000-2006 to 30.1% in 2007-2014. This is almost three times the averages for LAC (9.8) and CA (12.6) and double the comparator group average (16.8). In Social Protection, Guatemala shows some improvement in most indicators, but a few indicators worsened slightly. In particular, although the unemployment rate is lower in Guatemala than in the comparator groups, it increased from 2.5 to 3.4 while the other groups' unemployment rates decreased. Also, Guatemala's rural poverty rate is extremely high compared to other countries, and its urban poverty rate increased while it significantly decreased in the comparator groups.

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[1] A group of appropriate comparator countries for Guatemala was defined based on five criteria: GDP per capita, GDP (size of the economy), total population, population density, and percentage of population in rural areas. The comparators are: Angola, Bhutan, Kosovo, Sri Lanka, Syria, and Uzbekistan.

Table 1: Selected Human Development Indicators, Guatemala, LAC, Central America, and closest Income/Population Comparators, 2000-2014

Indicator Name	Guatemala		LAC Top 7		Rest of CA		Closest Comparators	
	2000-2006	**2007-2014**	2000-2006	**2007-2014**	2000-2006	**2007-2014**	2000-2006	**2007-2014**
Education								
School enrollment, preprimary (% gross)	56.0	**64.2**	65.8	**85.7**	46.9	**58.6**		**43.0**
School enrollment, primary (% gross)	109.2	**115.1**	111.7	**109.7**	109.5	**110.7**	100.9	**108.4**
School enrollment, secondary (%g ross)	46.2	**60.1**	78.8	**87.9**	64.5	**75.0**	61.3	**72.9**
School enrollment, tertiary (% gross)	9.5	**17.9**	37.2	**48.4**	26.4	**31.7**	10.0	**13.7**
Primary completion rate, total (%)	67.2	**83.0**	98.4	**102.1**	83.6	**93.2**	93.0	**88.8**
Pupil-teacher ratio, primary	30.9	**28.2**	24.5	**23.2**	30.5	**26.3**	25.1	**25.9**
Secondary completion, age 25+	11.9	**13.2**	36.0	**41.8**	26.4	**30.7**	31.2	**25.7**
Health								
Pregnant women with prenatal care (%)	84.3	**93.2**	93.7	**96.0**	88.2	**93.3**	79.3	**90.4**
Undernourishment (% of pop)	27.7	**30.1**	11.9	**9.8**	16.3	**12.6**	22.4	**16.8**
Immunization, measles (% 12-23 months)	92.3	**90.6**	95.2	**94.5**	93.7	**94.0**	84.3	**90.9**
Improved sanitation facilities (% of pop)	73.6	**78.9**	79.4	**83.9**	68.4	**72.7**	70.4	**76.9**
Improved water source (% of pop)	89.2	**92.9**	90.2	**92.6**	87.5	**90.4**	79.1	**83.1**
Hospital beds (per 1,000 people)	0.6	**0.6**	1.8	**2.0**	1.4	**1.2**	2.9	**2.6**
Births attended by skilled health staff (% of total)	41.4	**51.5**	93.2	**94.9**	84.4	**92.1**	74.8	**75.6**
Social Protection and Labor								
Employment to population 15+ (%)	62.3	**65.0**	58.6	**61.3**	57.3	**59.1**	56.4	**56.0**
Labor force participation, female (%)	43.3	**48.5**	49.3	**52.8**	42.9	**45.8**	45.5	**45.1**
Unemployment, total (%)	2.5	**3.4**	8.7	**7.0**	7.1	**6.0**	7.8	**7.3**
GINI index	54.3	**52.4**	53.6	**50.0**	52.2	**49.8**	41.8	**39.2**
Poverty headcount ratio, rural (%)	72.5	**71.4**	60.1	**52.6**	63.7	**51.8**	36.9	**27.3**
Poverty headcount ratio, urban (%)	28.6	**35.0**	37.4	**23.0**	45.3	**34.1**	32.1	**15.4**

LAC Top 7 countries are: Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, and Peru.
Closest Comparators are: Angola, Bhutan, Kosovo, Sri Lanka, Syria, and Uzbekistan (see footnote 1, p22)

Source: World Bank World Development Indicators (WDI)

III.   Recent Trends in Social Public Spending in Guatemala

Social Public Spending's share of GDP increased in the last decade but has stagnated in recent years. As a share of GDP, social public spending increased from 7% in 2007 to 8.1% in 2014 (Figure 4). The shares of all social sectors increased, with social assistance and labor spending growing most (77%) followed by health (18%), education (10%) and social security (4%). Social public spending's share of GDP increased significantly between 2007 and 2010. In 2011 social public spending decreased and has increased only marginally since then.

Figure 4: Social public spending as a percent of GDP, 2007-2014
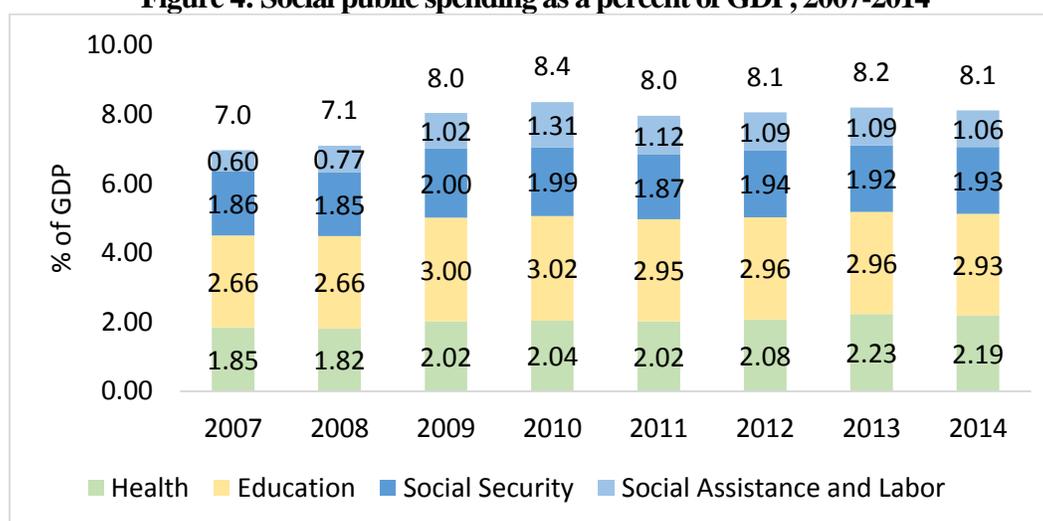
Source: World Bank SSEIR / ICEFI social public spending database

Despite its increased share of GDP since 2007, social public spending in Guatemala is by far the lowest in CA. Guatemala's overall social public spending share of GDP in 2014 of 8.1% is substantially below the 12% share in El Salvador, and the 13-15% shares in Honduras and Nicaragua which have lower GDP per capita (Figure 5). Guatemala also has the lowest social sector spending to GDP in CA in all categories except social assistance and labor where it ranks fifth (just above Nicaragua). Moreover, Guatemala's per capita social public spending is second-to-lowest in the LAC region, only marginally above Nicaragua (Figure 6).

Figure 5: Social public spending as a percent of GDP, countries in CA, 2014
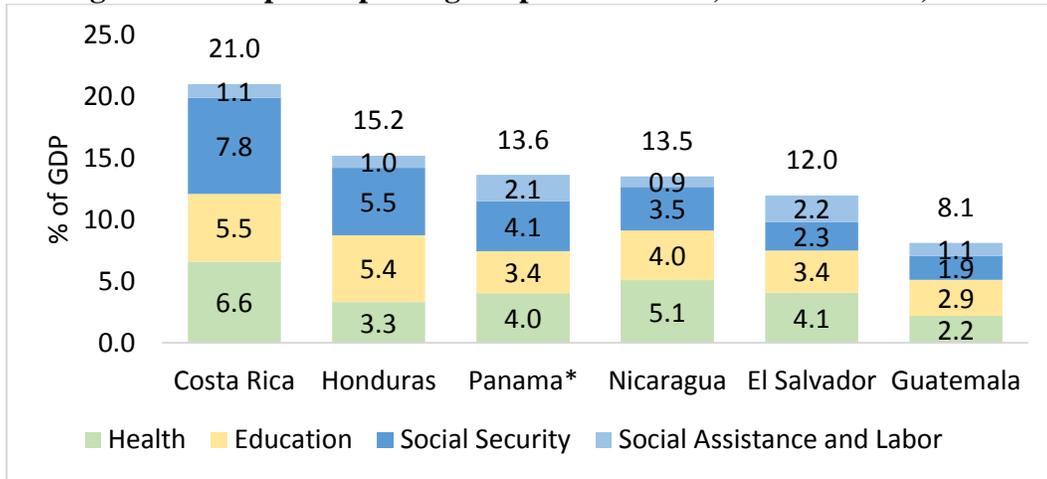
Note: *Panama data are for 2013.
Source: World Bank SSEIR / ICEFI social public spending database.

Figure 6: Per capita social public expenditure by sector (2014 or latest year available)
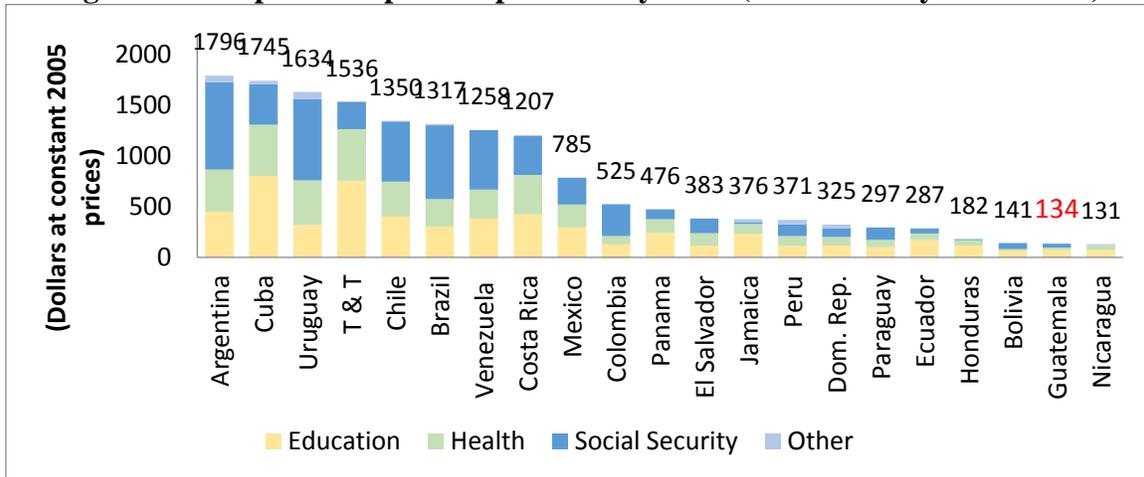
Source: ECLAC – CEPALSTAT

In general, social public spending is not progressive, with social security benefits especially regressive. Figure 7 shows the distribution of social public spending by sectors and quintiles. Public spending on health appears benefits mainly the bottom three income quintiles with a much smaller amount going to the richest quintile; education follows a similar pattern although with a smaller variation across income quintiles than health. Social assistance and labor interventions (cash transfers, sickness and disability, etc.) are fairly evenly allocated across the lowest four income quintiles, with significantly less going to the highest income quintile. However, social security spending appears to be highly regressive, increasing strongly with income.

Figure 7: Distribution of social public spending, Guatemala, 2014
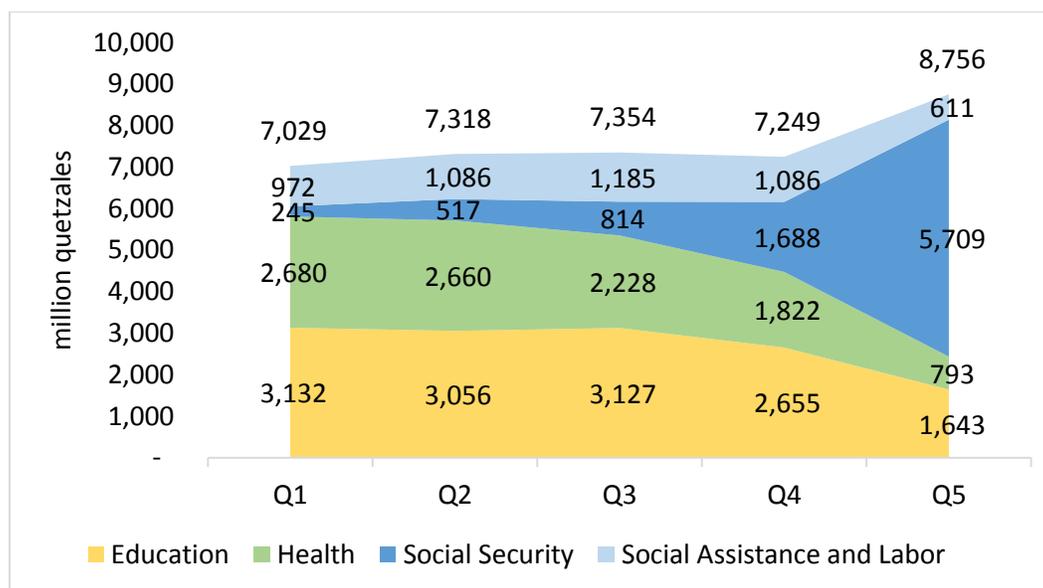
Note: Distribution of spending was calculated based on the distribution of beneficiaries per sector. For education, we considered the numbers of public students enrolled in each level of education by income quintile. For health, we considered the utilization of public health providers by income quintiles. For social security, we considered the distribution of social pension beneficiaries by income quintiles and, for social assistance, the distribution of social assistance beneficiaries.

Source: World Bank SSEIR / ICEFI social public spending database.

Guatemala's low total government revenue and expenditure make it difficult to adequately finance the social sectors. Guatemala ranks last in the world in total spending and total revenue as a share of GDP (Figure 8). In addition, the country's overall fiscal deficit increased from 1.4% of GDP in 2007 to 2.1% of GDP in 2014 (Figure 9). The international economic crisis that began in 2009 and the adoption of countercyclical policies widened the fiscal deficit which reached 3.3% of GDP in 2010. Since 2010, Guatemala has reduced its total deficit by decreasing total expenditures rather than by increasing revenues, which actually declined as a share of GDP in 2014 and 2015. The policy decision to close the deficit (quite successfully) by containing spending limits ability to increase allocations to social sectors. The only short run option is to focus on making the available spending envelope more effective and efficient.

Figure 8: Guatemala: economic performance compared to LAC and the World
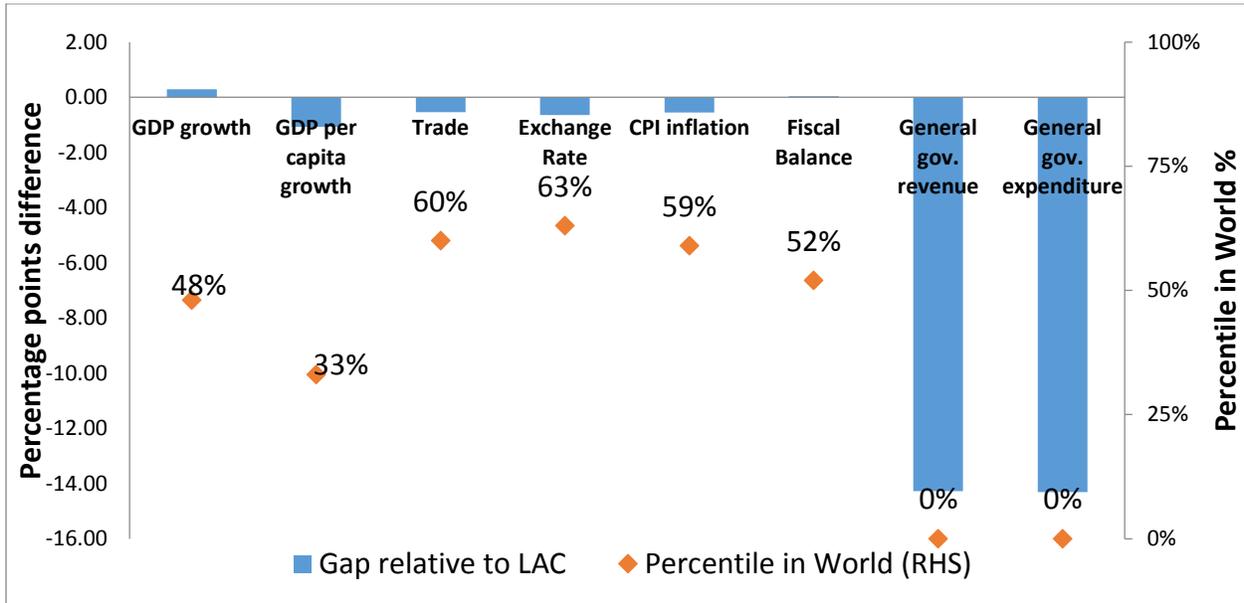
Source: Authors' calculations based on World Development Indicators (WDI).

Figure 9: General government overall balance, 2007-2015 (% of GDP)
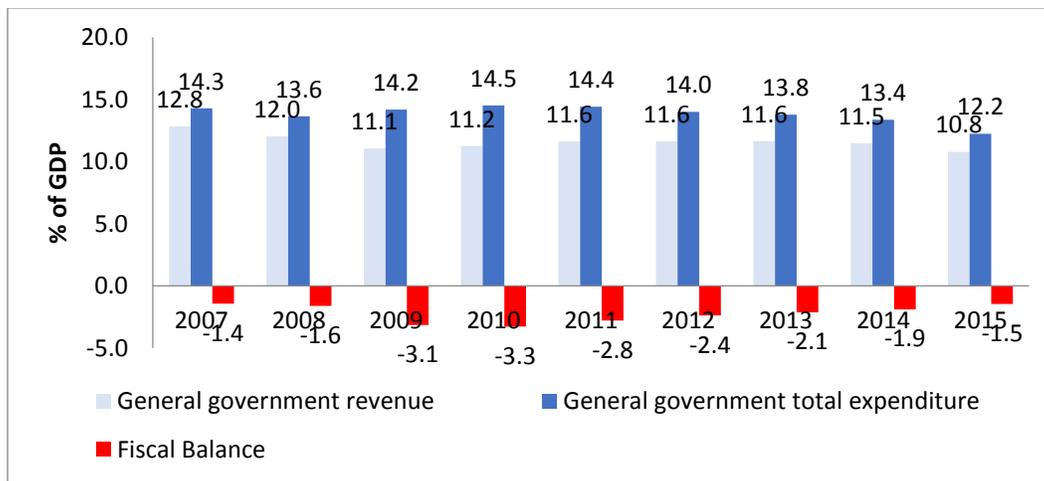
Source: IMF, World Economic Outlook Database, October 2014

On top of inadequate funding, social sectors did not fully spend their budgets; budget execution averaged 89% from 2007 to 2014. Among sectors, education's budget execution rate is the highest, although it decreased from 97% in 2007 to 95% in 2014. Social protection's budget execution rate was the lowest but increased from 84% in 2007 to 94% in 2010 and 96% in 2011 and 2012, then dropped to 94% in 2014. The health sector's budget execution rate was only 84% in 2014 although its average execution rate from 2007 to 2014 was 92% (Figure 10).

Figure 10: Budget Execution by social sectors and total, 2007-2014
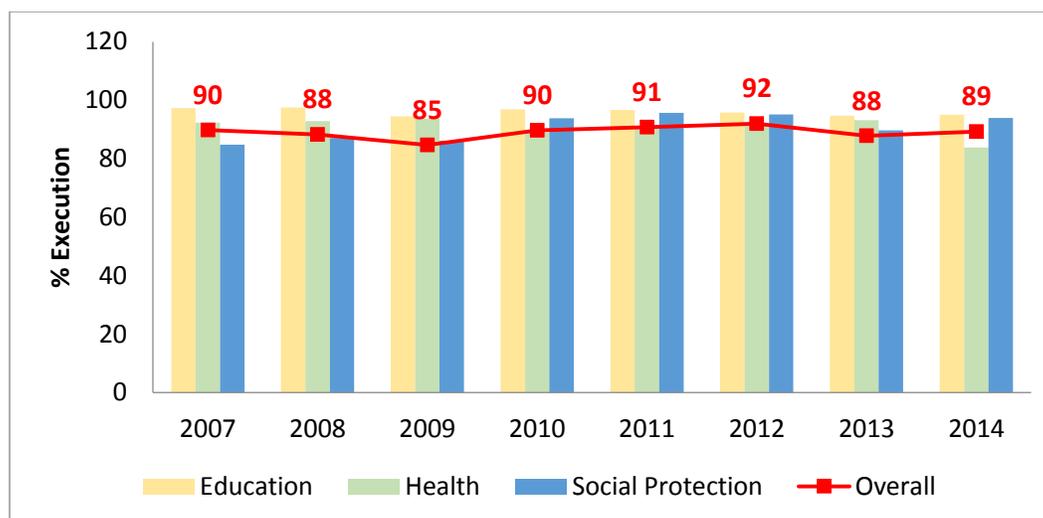
Source: World Bank SSEIR / ICEFI social public spending database

Guatemala's public social public spending is less effective but more efficient than other LAC countries. Figure 11 shows levels of Public Sector Performance (PSP) and Public Sector Efficiency (PSE) in Guatemala and in other LAC countries. PSP is a composite indicator based on socioeconomic variables that are assumed to be the output of public policies. This indicator summarizes the effectiveness of public spending in improving social outcomes. The PSE indicator relates PSP scores to total public spending in these sectors. It represents the "public value" per public dollar spent. The overall assumption behind the assessment of public sector performance and efficiency using PSP and PSE indicators is that the observed outcome indicators are solely the result of public spending policies (Box 1 provides additional information on the PSP and PSE analyses). Guatemala's public spending in all sectors is efficient but not effective compared to other LAC countries. This means that Guatemala is among the countries with the lowest social indicators,[2] but that the country gets higher returns (improvements in social indicators) per dollar of social public spending.

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[2] Indicators used to measure results in each social sector were: education (Adult literacy rate for population 15+ years, and each sex in %; Percentage of population age 25+ with completed secondary schooling), health (Maternal mortality ratio, national estimate per 100,000 live births; % of children aged 12-23 months immunized against measles) and social protection and labor (GINI index; Poverty headcount ratio at $1.90 a day 2011 PPP).

Figure 11: Public sector performance and efficiency in Guatemala and LAC, 2014
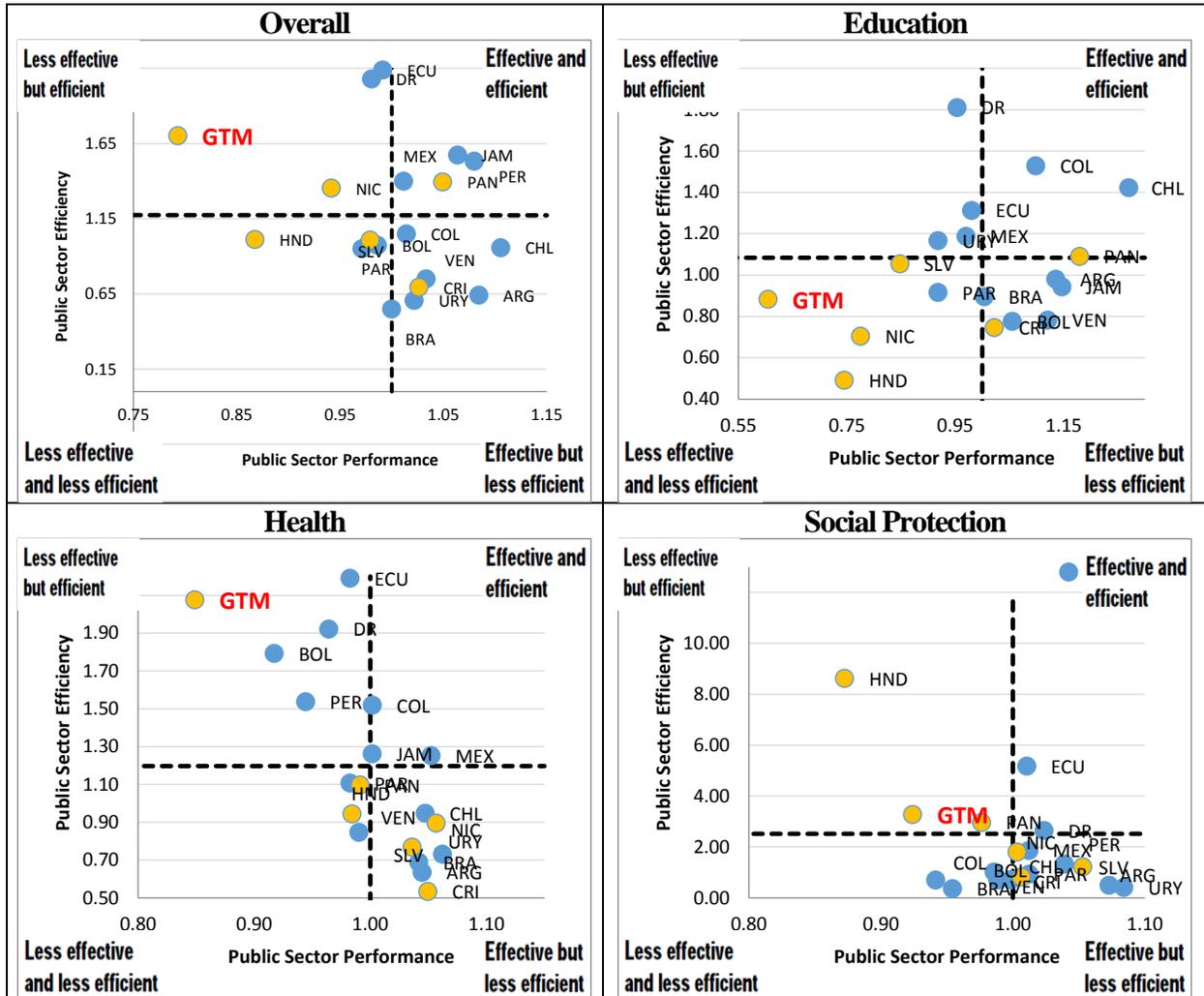
Source: World Bank SSEIR team's, authors' calculations using CEPAL and WDI databases

Box 1: Public sector performance and public sector efficiency indicators

The relationship between social outcomes and spending was analyzed using the Public Sector Performance (PSP) and Public Sector Efficiency (PSE) approaches developed by Afonso, Schuknecht, and Tanzi (2005, 2010).[3]

PSP is measured by constructing composite indicators based on observable social variables that are assumed to be the output of pursued social public policies. Specifically, the PSP for country $i = 1, ..., m$ with $j = 1,2,3$ social sectors (education, health and social protection and labor) is determined by:

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[3] The methodology follows Afonso, Schuknecht, and Tanzi (2005) for OECD countries, replicated for LAC in Afonso, Romero, and Monsalve (2013).

$$PSP_i = \sum_{j=1}^{n} PSP_{ij}; \ i = 1, \dots n; \ with \ PSP_{ij} = f(I_k), k = 1, \dots, r. \qquad (1)$$

where $f(I_k)$ is a function of k observable social indicators (for education, we take gross secondary enrollment and literacy rate; for health, we take maternal mortality and immunization rates; and for social protection and labor, inequality (measured by the Gini coefficient) and extreme poverty headcount (percentage of population earning less than USD1.25 a day). To obtain PSP indicators we assign equal weights to each sub-indicator, computed as the average of the corresponding outcome indicators, each one of them normalized by its sample mean. The PSP indicator for each country is then obtained by averaging the values of all sub-indicators. Resulting PSP scores are then related to the average value of one of the normalized output indicators. Hence, countries with PSP scores in excess of one are seen as good performers, as
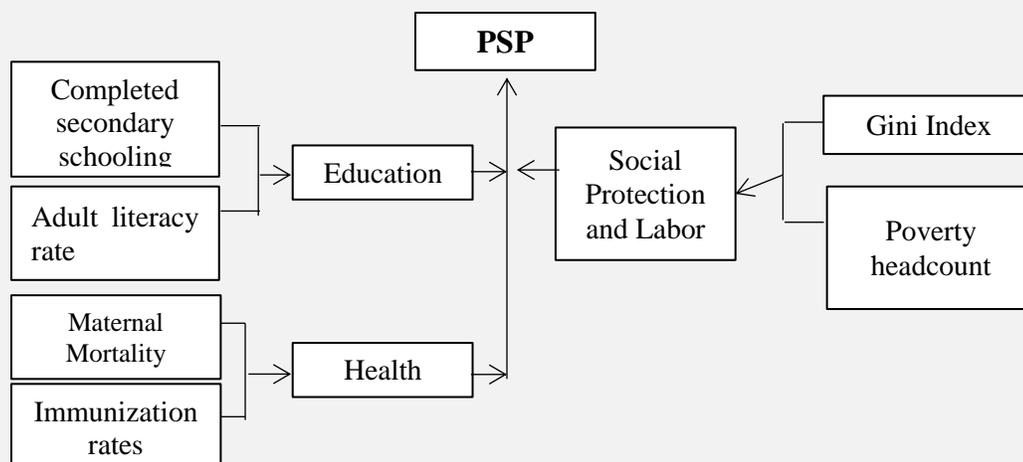
opposed to countries with PSP values below the mean.

PSE relates PSP scores to their cost in terms of public spending. PSE weights public sector performance in each social sector by the amount of relevant public expenditure used to achieve such performance. To compute PSE scores, public spending in each sector is normalized across countries, taking the average value of one for each of the expenditure categories (EXP_{ij}). That is, for each country $i = 1, \dots, m$ with $j = 1,2,3$ social sectors, the PSE is defined by:

$$PSE_i = \sum_{j=1}^{n} \frac{PSP_{ij}}{EXP_{ij}}; \qquad (2)$$

A LAC "production possibility frontier" analysis shows that Guatemala is on the efficiency frontier but achieving lower results than others. Figure 12 shows the production possibility frontier for total social public spending for LAC, applying data envelope analysis (DEA) using PSP scores as an output and social public spending-to-GDP ratios as an input (explained in Box 2). The results show an efficiency frontier essentially defined by Dominican Republic, Ecuador,

Peru and Chile (Figure 12). However, even though Guatemala is close to the efficient DEA frontier, this does not imply that there is no room for improvement in the outcome indicators (directly linked to performance) or the current input/output ratio. In fact, Guatemala could increase its performance by 20% with the same level of spending. The DEA analysis also suggests that there is no room for minimizing spending since the country could only save 1% of its spending and still achieve the same level of output. Sector specific results differ; for example, in the health sector (discussed in the health chapter), Guatemala is far from the Production Possibility Frontier

Figure 12: Production possibility frontier (data envelope analysis) for total social public spending - LAC, 2014
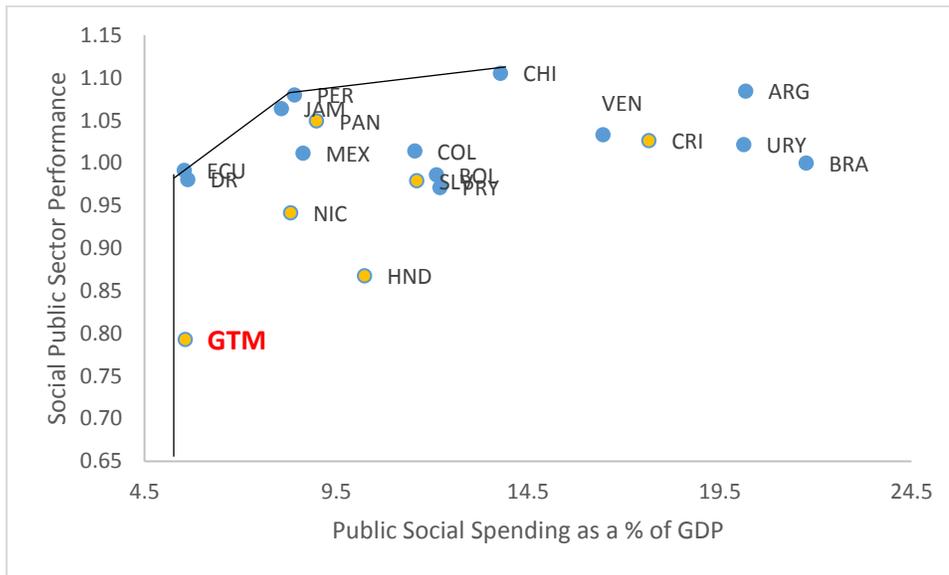
Source: World Bank SSEIR team's, authors' calculations using CEPAL and WDI databases

Box 2: DEA Methodology

The Data Envelopment Analysis (DEA) methodology, developed by Farrell (1957), assumes the existence of a convex production frontier to construct an envelope around the set of observations. DEA compares each unit with all other units, and identifies units that are operating inefficiently compared with other units' actual operating results. DEA presents two approaches: 1) the input-oriented approach shows how much input quantity could be reduced without changing the output quantities; 2) the output-oriented approach assesses how much output quantities could be increased without changing the input quantities used. Efficiency for each unit can be measured by computing the distance to the theoretical efficiency frontier (or compared to the best practice units). DEA provides an efficiency rating that is generally denominated between zero and 1, which will be referred to interchangeably as an efficiency percentage ranging from zero to 100%. The best practice units are relatively efficient and are

identified by a DEA efficiency rating of $\theta = 1$. The inefficient units have an efficiency rating of less than 1 ($\theta < 1$). This figure illustrates a single input, single output DEA production possibility frontier. Countries A, B and C are efficient with output scores equal to 1. On the other hand, country D is not efficient, and its score [$d2/(d1+d2)$] is below 1.
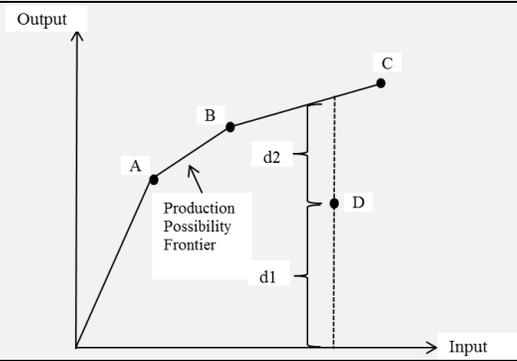
IV. Performance and Challenges in Education

IV.1 Recent Evolution of Education Spending

Between 2007 and 2013, education spending rose in real terms at a modest average of 1.1% per year and per capita education spending fell. In 2007, public spending on education was USD2.3 billion, and was only slightly higher at USD2.5 billion in 2014 (Figure 13). Real education spending increased marginally between 2007 and 2009, but decreased each year from 2010 to 2014. During 2007-2014, population growth outpaced growth in public education spending, leading to a decline in real per capita education spending from USD173 to USD157 (Figure 14). This is equivalent to a decline of 1.4% per year.

Figure 13: Public education spending, million dollars – PPP (2007)
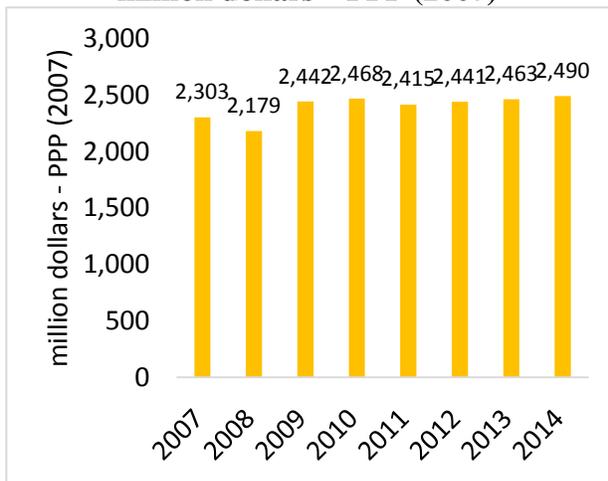
Figure 14: Public education spending per capita, constant dollars – PPP (2007)

Source: World Bank SSEIR/ICEFI social public spending database.
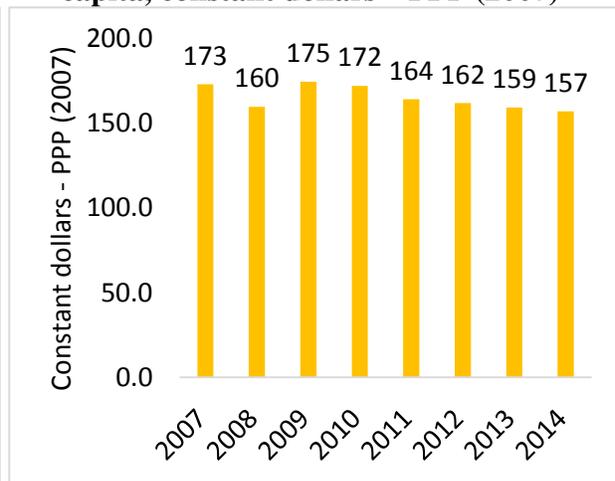
Source: World Bank SSEIR/ICEFI social public spending database.

Public education spending (as a percent of GDP) is lower than its CA regional peers and among the lowest in the world. Between 2000 and 2014, Guatemala's education spending as a percent of GDP fluctuated between 3 and 2.7% of GDP (Figure 15). This is the lowest in Central America (Figure 16). It is well below both the Latin America average and the norm for countries with similar GDP per capita levels (Figure 17). As a reference point, Angola spent 3.5% of GDP on education in 2010, and Bhutan spent 4.7% in 2011.

Figure 15: Guatemala, public spending on education, percent of GDP, 1978 - 2014
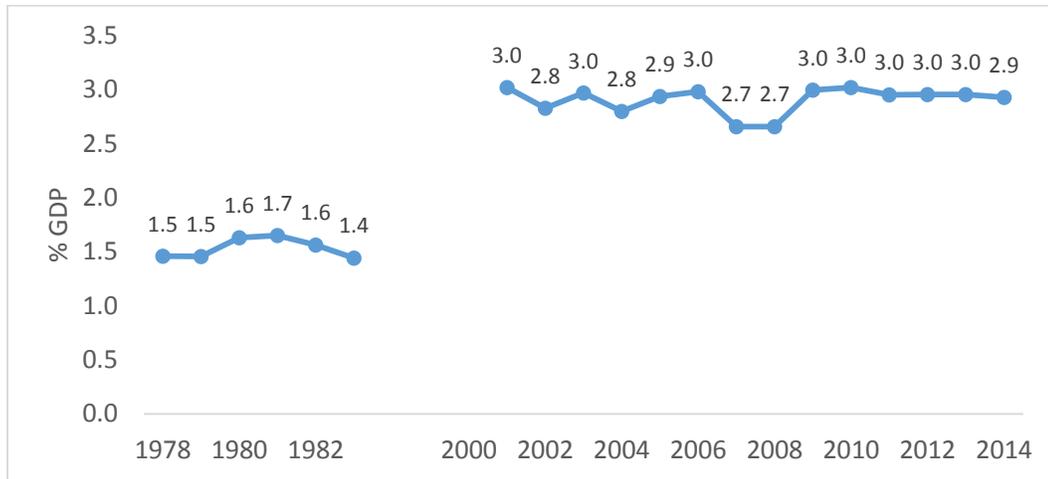
Source: Calculations based on World Development Indicators, World Bank (1985) for spending 1978-1985, World Development Indicators for spending 1993-2006, and World Bank SSEIR/ICEFI social public spending database for spending 2007-2014.

Figure 16: Public education spending in CA countries, percent of GDP, 2007-2014
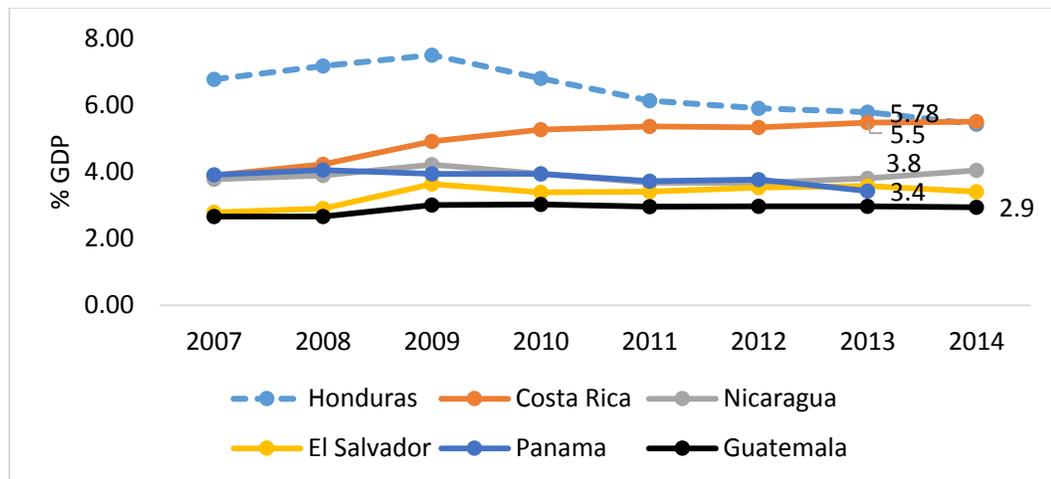
Source: World Bank SSEIR / ICEFI social public spending database

Figure 17: Public education spending and GDP per capita
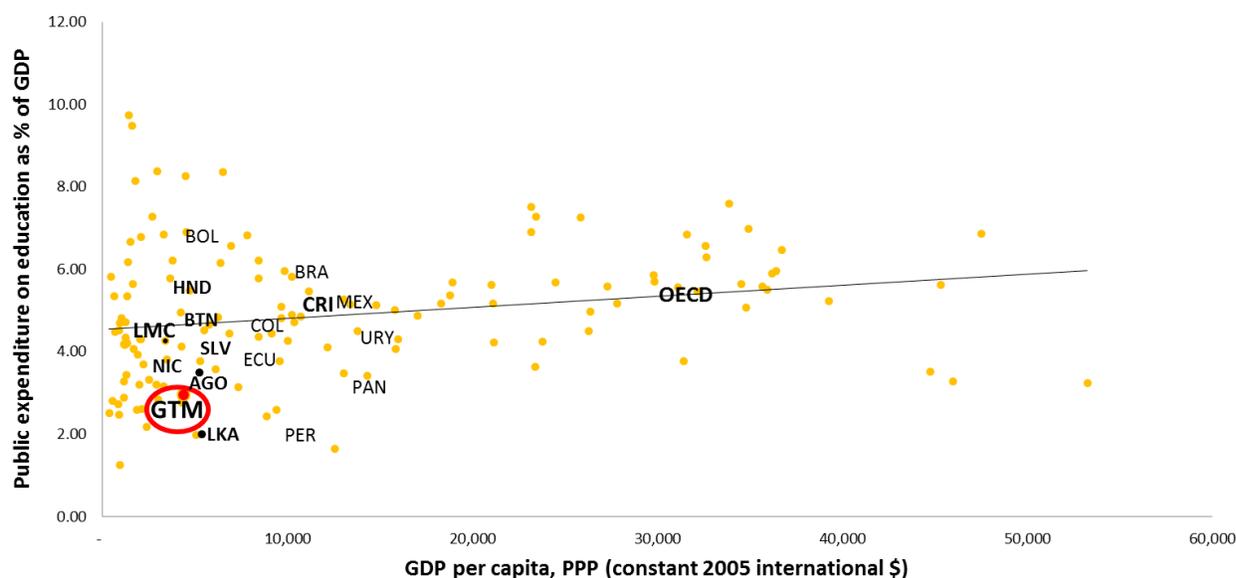
Source: World Bank SSEIR / ICEFI social public spending database for Central America. EdStats for rest of the countries. Includes latest data available by country.

Education spending is concentrated on pre-primary and primary education. Between 2007 and 2014, spending on pre-primary and primary education increased from 1.5 to 1.8% of GDP (Figure 18).[4] In 2014, they accounted for 63% of all public education spending in the country (Figure 19). This is in stark contrast to most Central American countries, which already invest a larger portion of their budget in secondary[5] and tertiary education, and less on pre-primary and primary education. This bias towards primary reflects Guatemala's greater focus on achieving universal access in primary education.[6]

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[4] In Guatemala, primary education begins at age seven and lasts six years; lower secondary consists of the three years between ages 13 and 16; upper secondary consists of two (diversified) or three (technical) years of schooling. Education is mandatory until grade six. When not specified, *secondary* refers to both lower and upper secondary combined. Further details on the structure of the formal education system are given in the Institutional section.

[5] When not specified, *secondary* refers to both lower and upper secondary combined.

[6] Guatemala's secondary and tertiary enrollment rates are much lower than in other countries. This may be both cause and effect of lower funding in these education levels. A higher than average portion of funding going to primary education and a lower than average portion going to secondary may encourage more of the same: higher primary enrollment requires greater investment, which maintains high enrollment; meanwhile, low public investment in secondary education may shift the financial burden to households, resulting in lower secondary enrollment.

Figure 18: Guatemala's public education spending by educational Level as a percent of GDP, 2007-2014
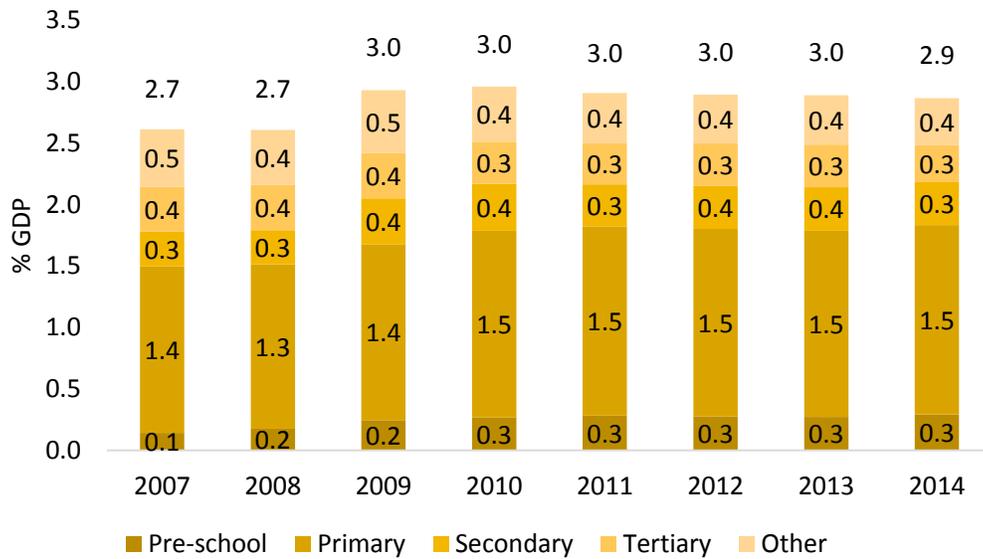
Source: World Bank SSEIR / ICEFI social public spending database.

Figure 19: Public spending by educational level as a percent of public education spending, CA countries, 2014
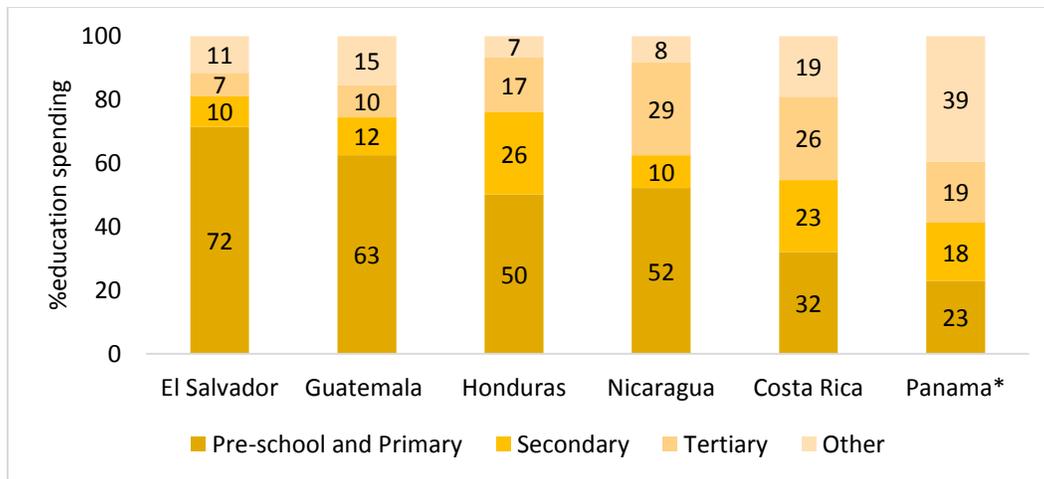
Source: World Bank SSEIR/ICEFI social public spending database. Note: Panama corresponds to 2013

Between 2007 and 2013, per student spending increased at the pre-primary and primary level, but decreased at the secondary level. Between 2007 and 2013, inflation-adjusted pre-primary spending almost doubled per student, increasing from USD271 per student in 2007 to USD446 per student in 2013 (Figure 20). Increasing per student pre-primary spending required significant resources, especially given the increase in the number of pre-primary students from

457,000 to 509,000 during the period (Figure 21). Per student primary spending also increased from USD479 to USD505, while enrollment increased from 2.45 to 2.66 million between 2007 and 2009, but then decreased back to 2.49 million by 2013. Secondary education enrollment expanded using low-cost education models, and secondary education remains the most poorly funded level. Total secondary education spending as a percent of GDP has remained stagnant, while enrollment increased from 864,000 to 1,164,000 between 2007 and 2013. During this period, secondary spending declined 11%, from USD285 per student to USD254 per student.

Figure 20: Guatemala's' per student spending by education level, 2007-2013 (2007 PPP USD)
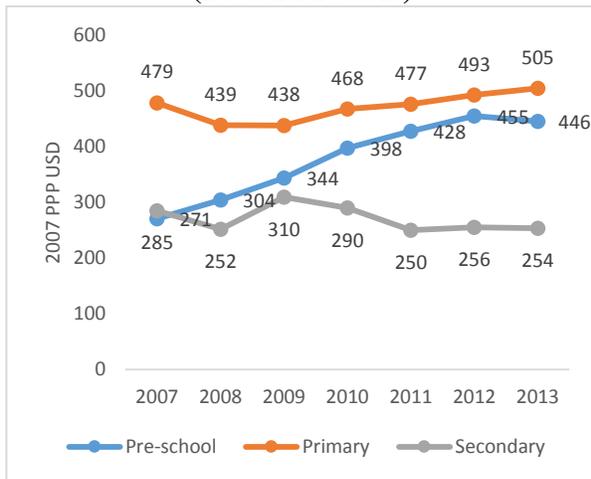
Source: World Bank SSEIR/ICEFI social public spending database; UNESCO Institute for Statistics.

Figure 21: Total enrollment by educational levels, 2007-2013
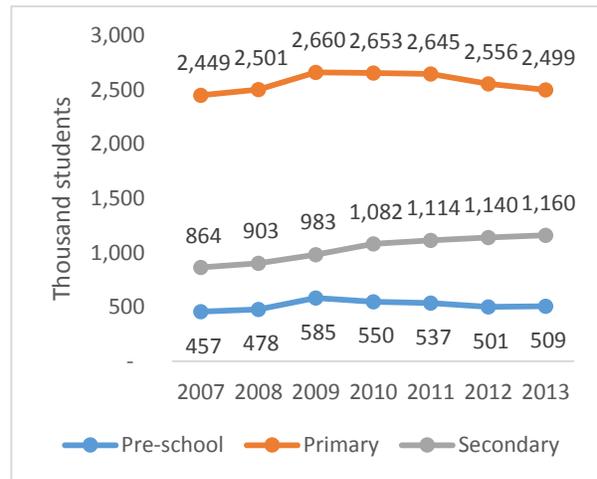
Source: UNESCO Institute for Statistics.

In the years ahead, population growth will require increasing the education system's capacity to serve additional students. While the Guatemalan education system has made great strides towards universal primary and lower secondary education in the past two decades, high population growth means that the system will need to continue to expand its capacity simply to keep up with the increasing number of students. Population projections confirm a substantial increase in the number of primary and secondary-age students until 2050 (Figure 22). To maintain current student teacher rations, Guatemala has the highest need to expand the stock of teachers in Latin America (Figure 23).

Figure 22: Projected population pyramids, 2010 and 2050

Figure 23: Projected change in the stock of teachers needed in LAC, 2010-2015
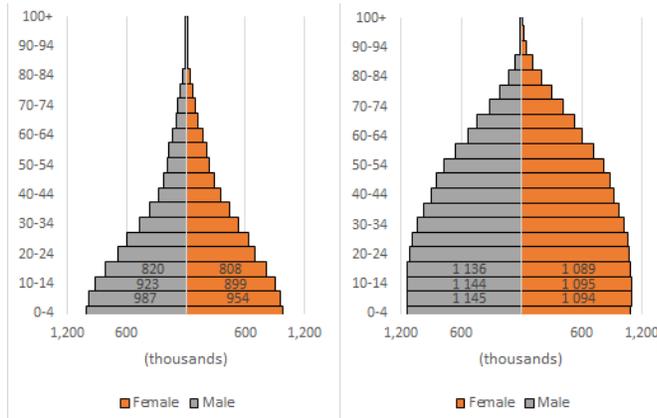
Source: United Nations Population Division (2015) World Population Prospects: 2015 Revision. Medium fertility variant used for calculation.
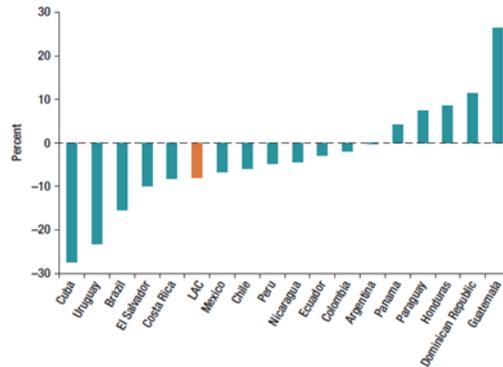
Source: Bruns and Luque (2015) Great Teachers: How to raise student learning in Latin America and the Caribbean. The World Bank Group

In spite of the recent increases, as of 2013, per student spending in primary and secondary were still lower than in most comparator countries around the world. Despite a higher proportion of the budget going to primary education, primary per pupil spending is the second lowest in CA (Figure 24) and second lowest in comparison with economic peers (such as Slovenia and Angola). This is worrisome since per student spending in Central America is already much lower than the world average. The country's spending per secondary student (as a percent of GDP per capita) is the tenth lowest worldwide (Figure 25).

Figure 24: Primary public spending per pupil and GDP per capita
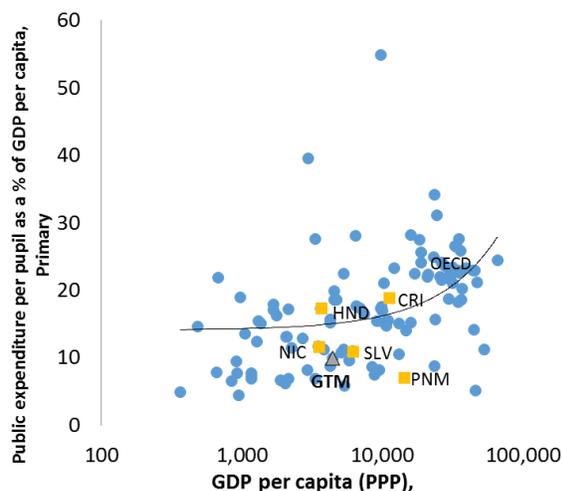
Source: World Bank SSEIR/ICEFI social public spending database; Edstats for all others. Data for each country are for the latest year available, which varies by country and is as early as 2010 for some.

Figure 25: Secondary public spending per pupil and GDP per capita
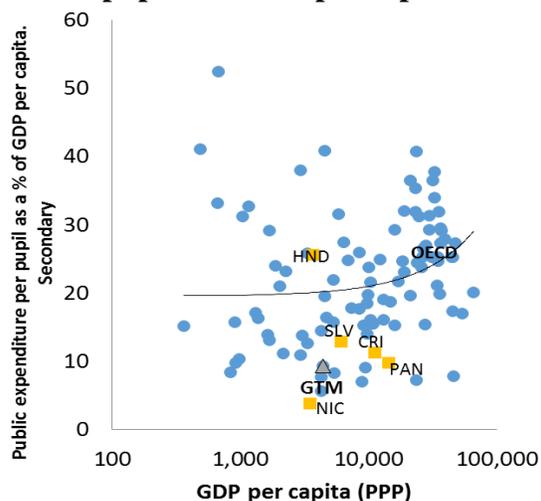
Source: World Bank SSEIR/ICEFI social public spending database; Edstats for all others. Data for each country are for the latest year available, which varies by country and is as early as 2010 for some.

Government spending varies considerably across education levels; spending per student in tertiary education is 1.9 times the level in primary and 3.9 times spending per secondary pupil. In 2013 the government spent on average USD505 per primary student and USD 446 per pre-school pupil, but only USD254 per secondary student (Figure 26). In 2013, government average spending of USD987 per tertiary student was nearly four times the spending per secondary student. This pattern contrasts with most Central America countries, where per pupil spending is greater at higher levels of education (Figure 27). Globally, over 80% of all countries spend more per secondary student than per primary student.[7] Guatemala also has a high ratio of pre-school to primary spending (Figure 27 shows that this ratio varies considerably across the sub-region).

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[7] Analysis conducted by the authors using data from World Bank Development Indicators.

Figure 26: Spending per student by education level, Guatemala 2013
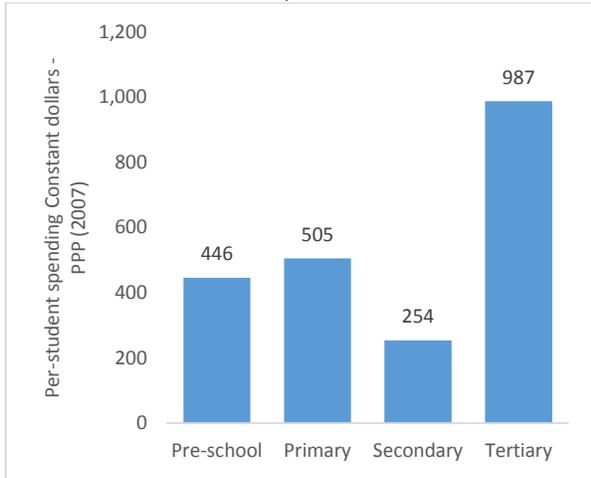
Source: World Bank SSEIR/ICEFI social public spending database; UNESCO Institute for Statistics

Figure 27: Per student spending by education level, Central America
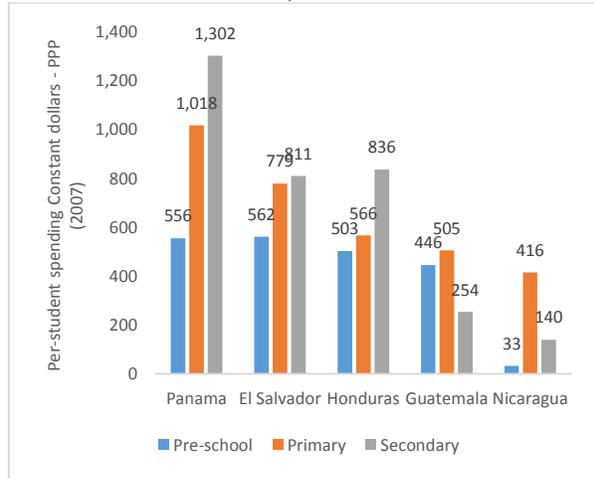
Source: World Bank SSEIR/ICEFI social public spending database. Note: Costa Rica is omitted because data are not available for all three levels.

Public education spending in Guatemala benefits the wealthiest quintile most and does not target the poorest groups. An incidence analysis based on enrollment and per student spending by education level shows that public education spending is regressive at the top end. On average, 24% of all education spending goes to the wealthiest 20% of the population and 19% to the poorest quintile (Figure 28). This is primarily due the wealthiest households capturing most of the tertiary spending and the poorest households benefitting very little from secondary or tertiary education spending. Households from all wealth quintiles are well represented in primary and secondary schools. In 2014, 54% of primary students and 37% of secondary students came from the poorest 40% of households (Figure 29). In contrast, 75% of all tertiary students were from the wealthiest 20% of households, and over 90% were from the wealthiest 40% of households. In addition, an analysis of subnational spending data found that education spending per capita is lower in poorer regions.[8]

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[8] Analysis conducted by the authors using 2013 data from World Bank (2015).

Figure 28: Public education spending by quintile, 2014
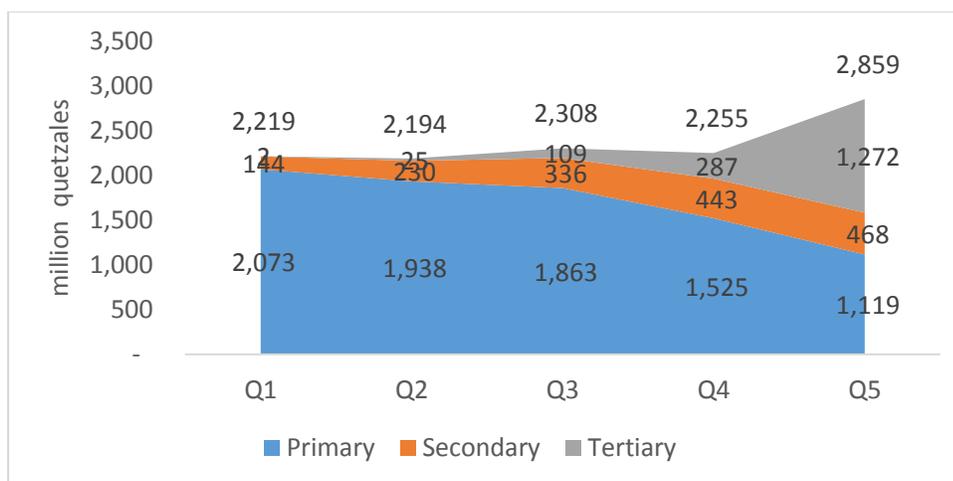
Note: *Encuesta Nacional de Condiciones de Vida* (ENCOVI) is a nationally representative household survey of living conditions, including education and health, and household consumption patterns in Guatemala. The Benefits were calculated from enrollment and per student expenditure by level. Quintiles were created from household consumption data. The analysis excludes CCTs and education spending not attributable to these specified levels.

Sources: SSEIR Analysis (2015) using ICEFI (2013) financial data and ENCOVI (2011) consumption and enrollment rates.

Figure 29: Students by educational level and quintiles, 2014
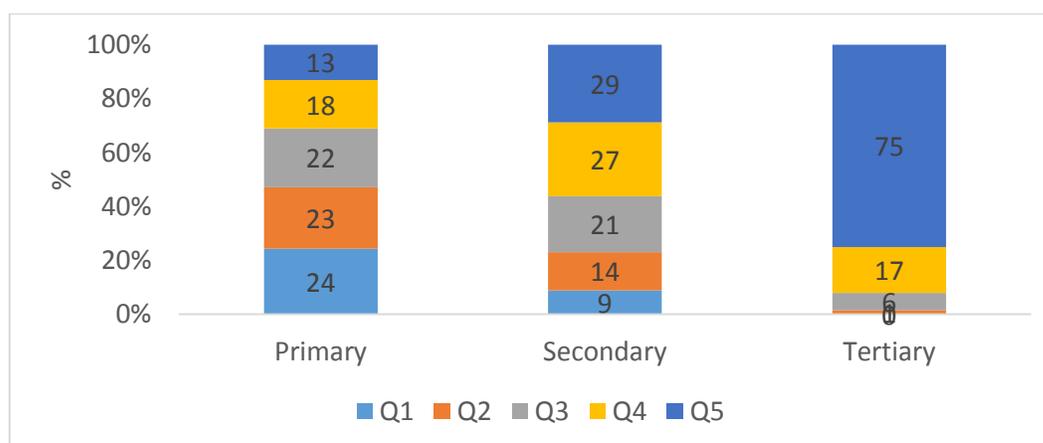
Source: World Bank SSEIR team's analysis of ENCOVI 2011 data. Authors' calculations using ADePT software and data on household consumption to create quintiles.

The wage bill share of total education spending has increased since 2007, driven mainly by the increased number of primary school teachers. In 2013, the wage bill accounted for 82% of total education spending; 16 percentage points higher than the 65.6% share in 2007 (Figure 30).

As with most countries in the CA region, and reflecting enrollment numbers, primary and lower secondary education wages are the largest component of total education wage expenditures (Figures 30, 32). Between 2007 and 2012, the number of primary education teachers in Guatemala increased from 66,462 to 90,714 (Figure 31). This increased the wage bill for primary education from 40% of all education spending in 2007 to 56% in 2013. By 2013 the education wage bill was 2.4% of GDP but still less than in most countries in the CA region (Figure 32).

Figure 30: Guatemala: Wage bill as a percent of education spending 2007-2013
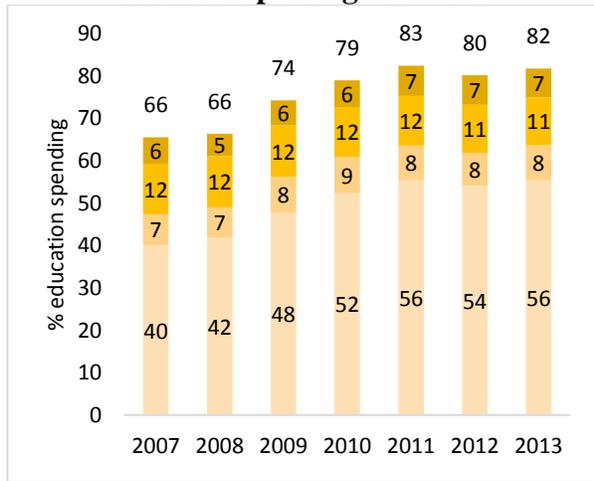
Source: World Bank SSEIR/ICEFI social public spending database

Figure 31: Number of primary and pre-primary teachers 2007-2012
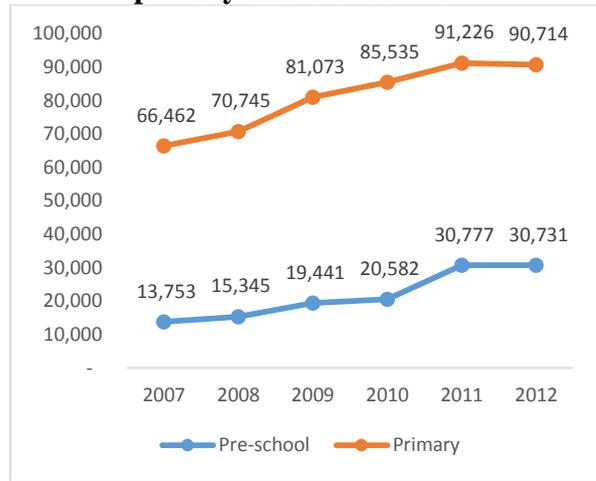
Source: Planning Directorate, Guatemala Ministry of Education (2015).

Figure 32: Total education wage bill, CA countries
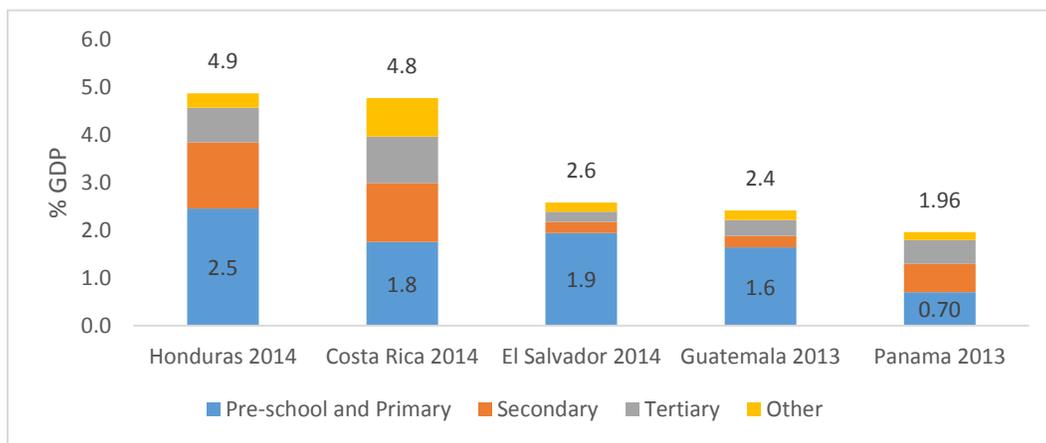
Source: World Bank SSEIR/ICEFI social public spending database (2015).

On average, teachers in Guatemala are paid less per month than other similarly qualified professionals, but they also tend to work fewer hours. An empirical analysis of wages in Central America shows that teachers earn 20% less per month than other professions with similar education and skill requirements (Figure 33). However, teachers in Guatemala are formally required to work only five or six hours per day (the length of the school day). Assuming that teachers work only during school hours (the hours recorded in the data set), they make 16% more per hour than other comparable professionals. This implies that Guatemala has the second highest monthly wage premium in the sub-region (Figure 33). However, some caution is needed. Most likely, teachers actually work longer hours than the school day (doing teaching preparation and grading), implying a smaller "de facto" hourly wage premium relative to other professions. Differences across countries in this gap between hours actually worked and the hours recorded in household data sets could also affect the relative ranking in hourly premiums across countries.

Figure 33: Variation in monthly and hourly earnings comparing teachers and similar professions
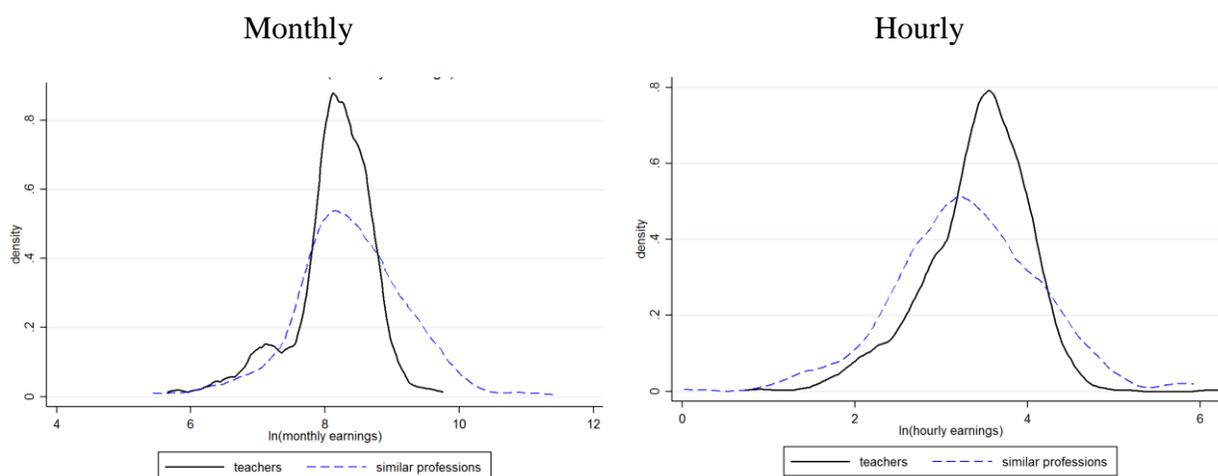
Source: ENCOVI (2014). Analysis conducted by SSEIR team. Methods used based on Bruns and Luque (2014), Great Teachers.

The distribution of teacher's wages is compressed, making teaching unattractive for many people who value potential wage increases over their career. The attractiveness of a profession is linked not only to average pay, but also to the potential for increasing earnings over the course of a career (see Bruns and Luque, 2015, for a discussion). The shape of the wage distribution in Figure 33 shows that the range between the maximum and minimum pay for teachers is much smaller than in other professions. Successful workers in other professions can achieve wage increases through promotions and pay raises, but teachers in Guatemala seem to have limited prospects for increased compensation over time. Some of the most motivated individuals will likely prefer professions with greater opportunities for pay growth.

As of 2013, after the increase in the number of teachers, student-teacher ratios for primary education are in line with countries with similar income levels, but secondary education

ratios are lower. The primary student-teacher ratio of 26.2 is in line with global averages given Guatemala's low income level (Figure 34). The public secondary school student-teacher ratio was 14.4 in 2013, well below levels in countries with similar per capita incomes (Figure 35) and is the lowest in Central America (Nicaragua (30.8), El Salvador (24.4), Honduras (19.9), Panama (14.9) and Costa Rica (14.2). This benefits those currently enrolled in secondary school, but is in part a result of having the lowest secondary enrollment rate in Central America. As discussed below, at least one-third of secondary age students are not enrolled in school. The large number of secondary teachers could be an underutilized resource that could allow for secondary enrollment expansion.

Figure 34: Primary student teacher ratios, global

**Figure 35: Secondary student teacher ratio, global**
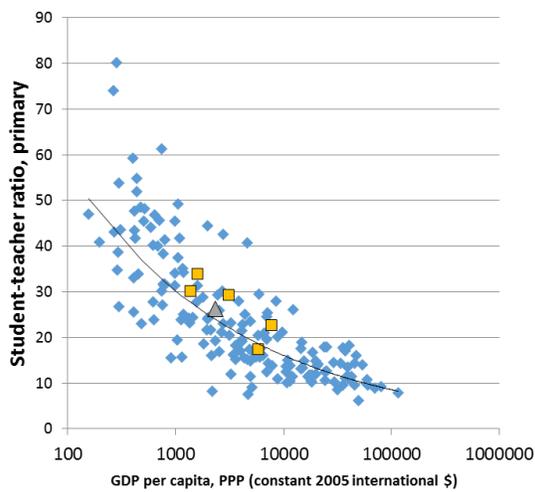
Sources: World Bank SSEIR/ICEFI social public spending database; Edstats for all others. Data for each country are for the latest year available, which varies by country and can be as early as 2010.
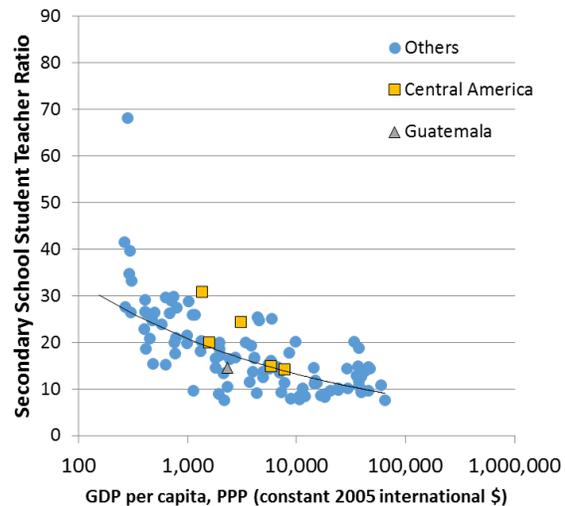
Sources: Edstats and World Development Indicators. Data for each country are for the latest year available, which varies by country and can be as early as 2010.

IV.2   Performance of Education Indicators

Since 2009, enrollment rates in primary education have fallen, although there is a risk of overstating this fall as official population projections may be inaccurate (based on 2002 census). In 2012, one in ten primary age students were not enrolled in primary school. Between 2009 and 2014, the gross enrollment rate (primary students of all ages divided by the number of primary age students) declined from 117.3 to 103.6% (Figure 36). Net enrollment (enrolled primary school age students only divided by total primary age children) appears to have declined because some families chose not to enroll their children at all, and not from student dropout. In

2013, the net enrollment rate fell below 90%; the percent of primary-age students who were not enrolled increased from 4.4 in 2007 to 10.9 in 2012. The gap between the gross and net enrollment rate represents students who are not in the age-appropriate grade. While more students are reaching grade 6 than in the past, enrollment in grades 1 and 2 have been declining substantially since 2009 (Figure 37). It is worth stressing that the decline in enrollment rates could simply be explained by the fact that the latest available population estimates are based on predictions from the 2002 census. If the population grew less than predicted, there may be fewer children missing from school than the numbers suggest.

Figure 36: Primary education gross and net enrollment rates, 2007-2014
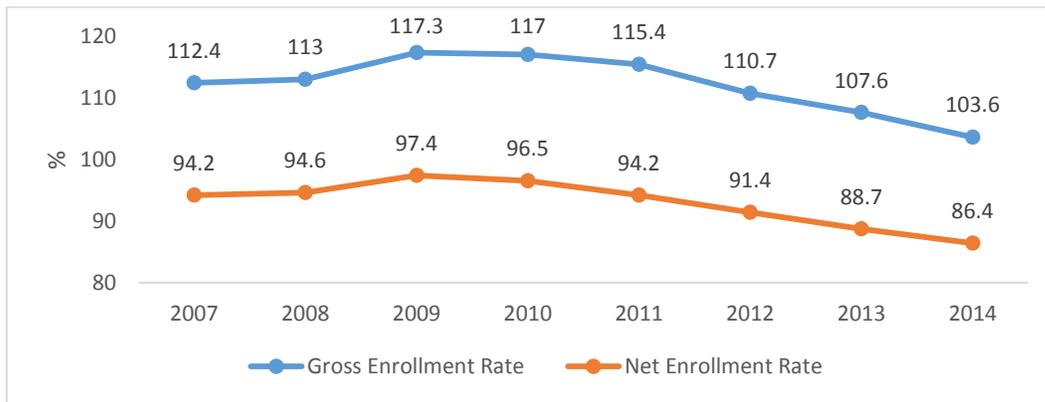
Source: UNESCO Institute for Statistics (2015).

Figure 37: Total enrollment in grades 1 and 6, 2009-2014
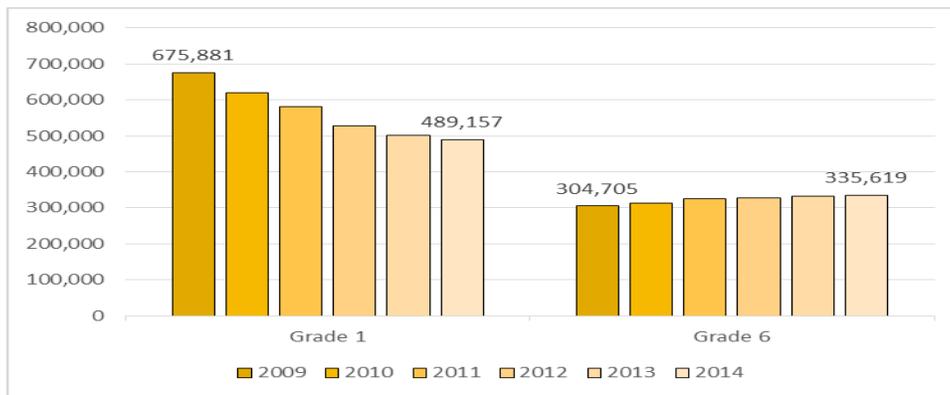
Source: UNESCO Institute for Statistics (2015).

The high drop off in primary school attendance is an important area of research moving forward. Although it is possible that population projections are old and enrollment rates actually are not falling, it may also be that after a reasonably long period of sustained increase in primary public education access/coverage, low quality – coupled with low returns to education – are discouraging some students from attending school. The repetition rate (discussed below) is an

indicator of poor quality. It may also be that financial constraints are binding for the poorest (partly due to low CCT generosity) and are leading to lower enrollment rates. The fall in total primary enrollments since 2010 suggests that lack of access to schools is not the cause.

Guatemala has the highest repetition rate in primary education in Central America. The gap between the gross and net enrollment rates is caused by the large student population beyond primary age. Low education quality often leads to high grade repetition, which in turn results in lower student completion. Figure 38 shows the percent of primary students that repeat a grade each year. Guatemala has the highest repetition rates for primary education in Central America, averaging 11.7% of students between 2007 and 2013. Only Suriname has a higher repetition rate than Guatemala in Latin America and the Caribbean. Consistently high repetition rates in the past are likely due to Guatemala's persistent quality issues (discussed below). While repetition shows a commitment to hold students to learning standards, it increases education costs and may discourage students. High levels of repetition and student drop-out result in fewer students completing primary school (Figure 39).

Figure 38: Repetition rate for primary students in Central America, 2007-2012
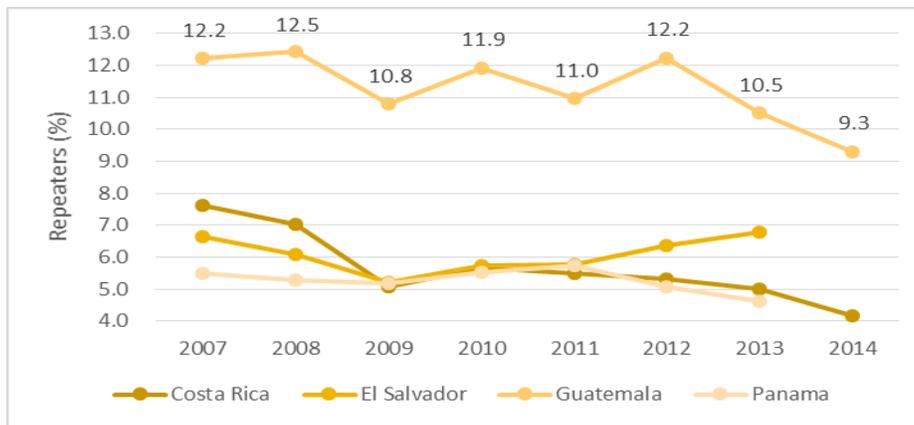
Source: UNESCO Institute for Statistics (2015).

Figure 39: Primary completion rates in Central America
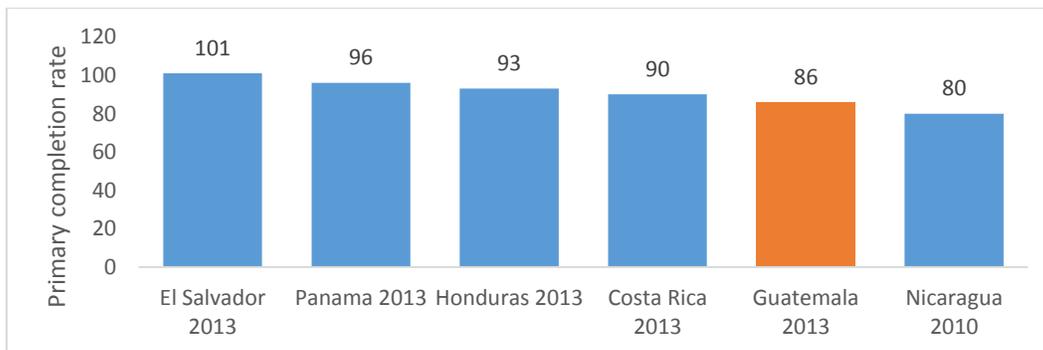
Source: UNESCO Institute for Statistics (2015).

While secondary enrollment is slowly rising, it is not catching up with the rest of Central America. The gap between enrollment rates in Guatemala and the rest of Central America is not closing. In 2014, the secondary gross enrollment rate was 63.5%, consistently below geographic peer countries (Figure 40). Secondary enrollment is also below the level for many countries with similar income levels (Figure 41). As discussed below, this is primarily due to two factors: (i) fewer students complete primary school than in other countries, removing them from the pool of potential secondary students; (ii) among primary school graduates, transition to secondary is lower (see below). Over the last decade, the government has invested in several programs that aim to increase access at the secondary level. New modalities catering to rural and indigenous populations include *Telesecundaria* and *Núcleos Familiares Educativos para el Desarrollo* schools. Both have greatly increased the accessibility of secondary schools in rural areas - particularly by eliminating the need for teacher specialization in specific subjects - and therefore reducing the minimum number of teachers required in a school.[9] In addition, limited government scholarship programs have helped some students enroll despite financial constraints.

Figure 40: Secondary gross enrollment rates in Central America, 2007-2014
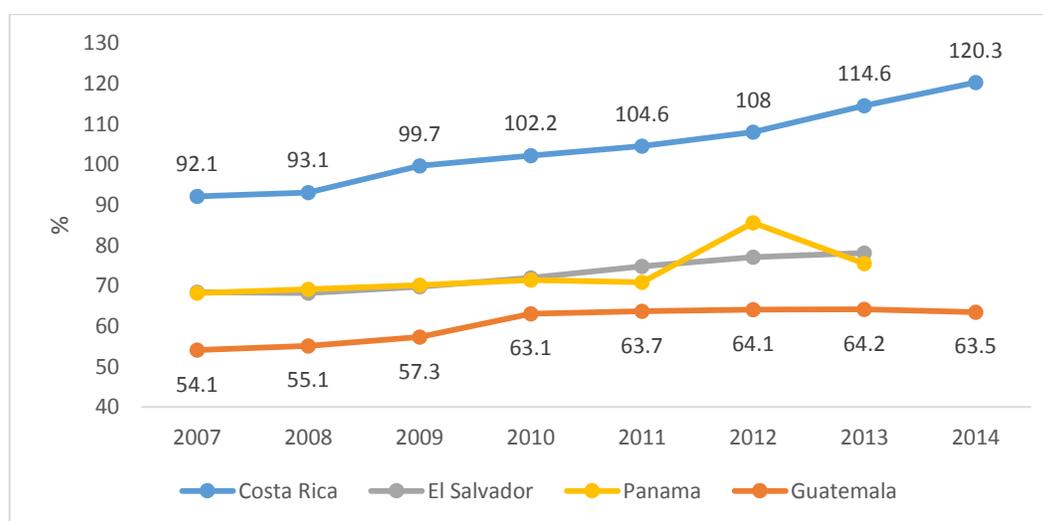
Source: UNESCO Institute for Statistics

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[9]For more details on *telesecundaria* schools see Barahona and Castro-Valverde (2013). They are an educational innovation of the Ministry of Education, fostering access to basic education in rural areas where it is not possible to establish regular schools for geographical and economic reasons. It features support for one teacher, who is the head of educational process in all subjects. It is usually supported by audiovisual and printed materials. The program was established through an agreement on distance education between the Ministry of Education of Mexico and the Ministry of Education of Guatemala in 1996.

Figure 41: Secondary education gross enrollment rate vs GDP per capita
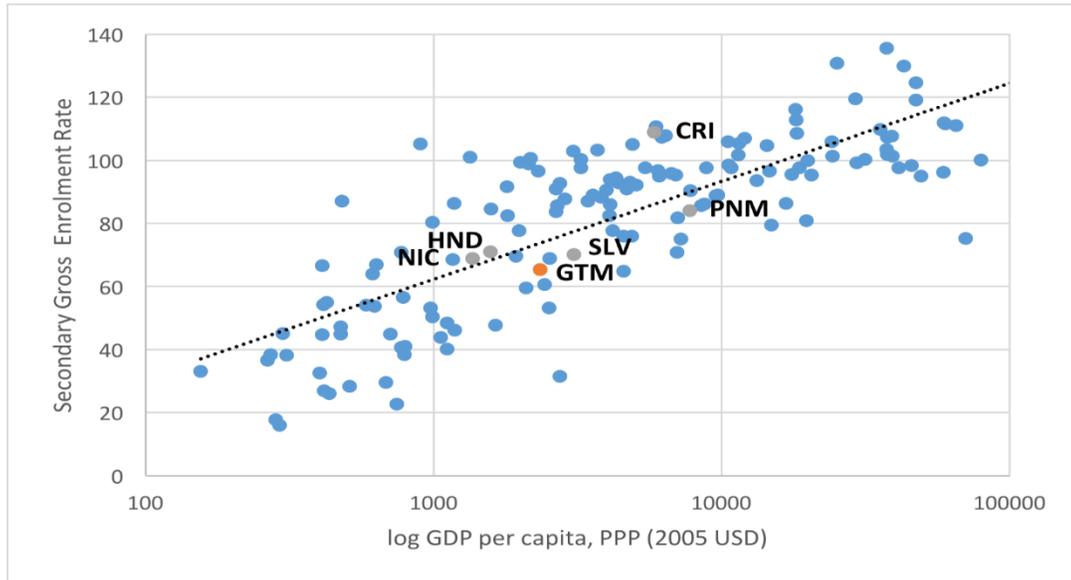
Source: UNESCO Institute for Statistics. Data for each country are for the latest year available, which varies by country and can be as early as 2010.

Guatemala's school attendance by student age is lower and students generally drop out from school earlier than in other Central America countries. Although the shape of the distribution of enrollments is similar to other countries, Guatemala's enrollment rate of students aged 5-20 is lower than most other Central America countries at almost every age (Figure 42). Across the region, pre-school enrollment (age 5) is lower than enrollment in primary education, and then starts decreasing again in secondary education as children approach their teens. Guatemala has the lowest enrollment rate of 5 and 6 years-old students and far from universal primary enrollment (already achieved in Costa Rica). Guatemala's decline in enrollment begins around age 11, similar to Nicaragua and Honduras, but much earlier than Panama and even El Salvador, where the enrollment rate starts decreasing around age 15.

Figure 42: Percent of population enrolled in school by age in Central America
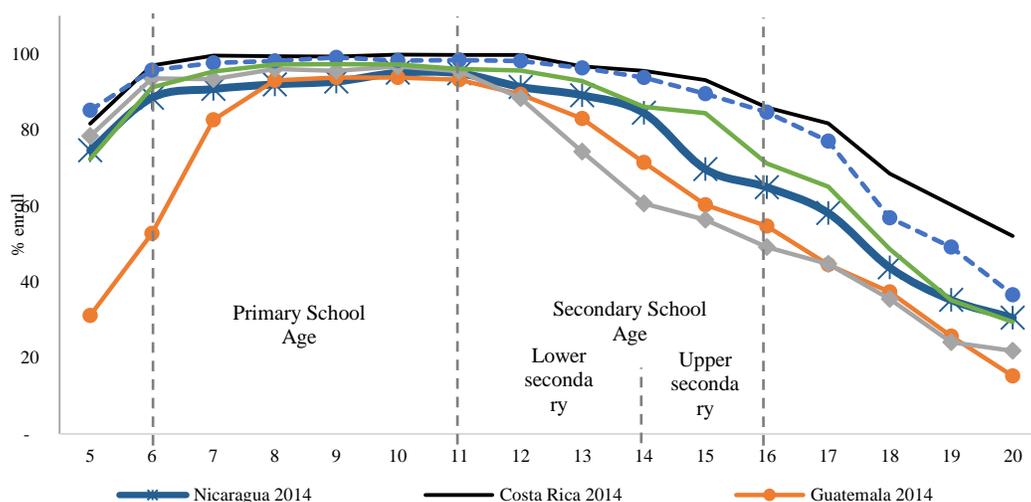
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations

Among those who start secondary education, completion of secondary education is low. Despite spending a similar number of years in school as peers in the region, Guatemalan students complete fewer grades due to repetition. Figure 43 reports the percent of 15-19 year olds that successfully completed 1 through 9 years of schooling (primary and lower secondary). Less than one-third of students complete upper secondary school. While enrollment by age suggests that half of the students spend at least 9 years in school, the average 18 year old student has completed only 7 grades. Low secondary enrollment is likely linked with two facts: first, as in Nicaragua, grade attainment in Guatemala steadily declines throughout primary school due to repetition and dropout; second, as in Honduras, many students in Guatemala who finish primary school (grade 6) do not transition to secondary school (grade 7), likely due to increased direct costs, increased opportunity costs, and low quality. The combination of repetition *and* dropout leads to very low enrollment levels in Guatemala by the time students reach upper secondary age. In 2011, one-third of upper-secondary age students in Guatemala were attending primary or lower secondary school, and only 20% were attending upper secondary (Figure 44).

Figure 43: Grade attainment by 15-19 year-olds in Central America
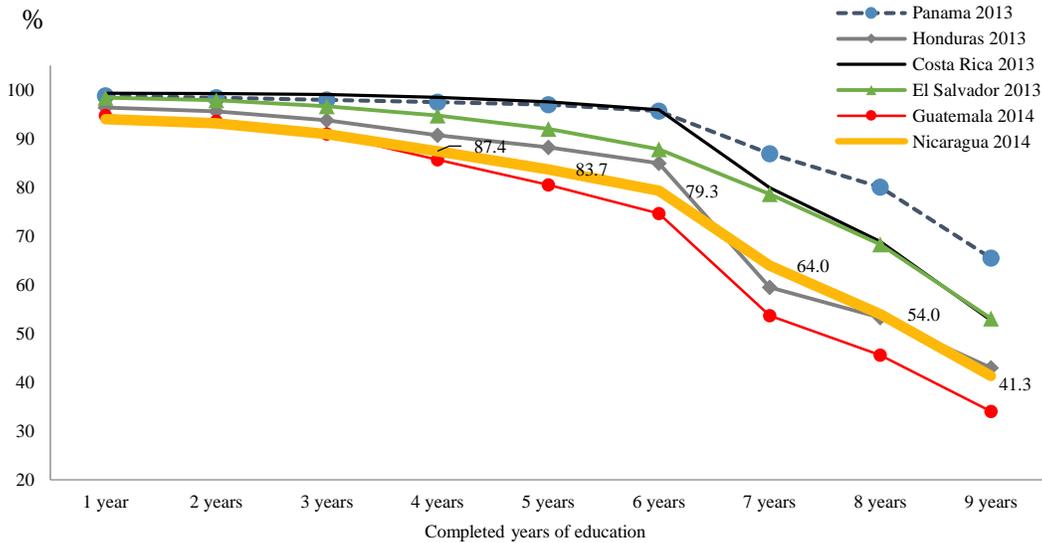
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations

Figure 44: Schooling status of upper secondary age youth in Central America, circa 2013
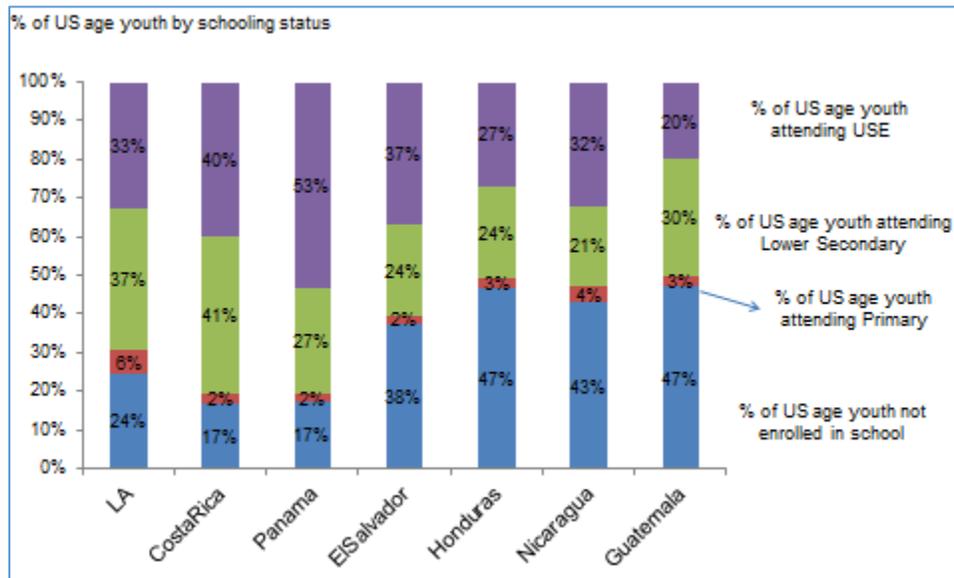
Source: Adelman and Székely (2015); Guatemala calculations based on ENCOVI (2011).

Finally, tertiary enrollment is the lowest in CA. The country's gross tertiary enrollment of 19% is the lowest in Central America (Figure 45). Students in Guatemala who complete upper secondary have a lower rate of transition than in the rest of Central America. Low upper-secondary enrollment limits the pool of students who could transition to postsecondary and contributes to the

lowest unconditional transition rate in Central America (Figure 46). Limited access to the tertiary level likely also plays a role (see *Institutional Challenges* below).

Figure 45: Gross tertiary enrollment in Central America
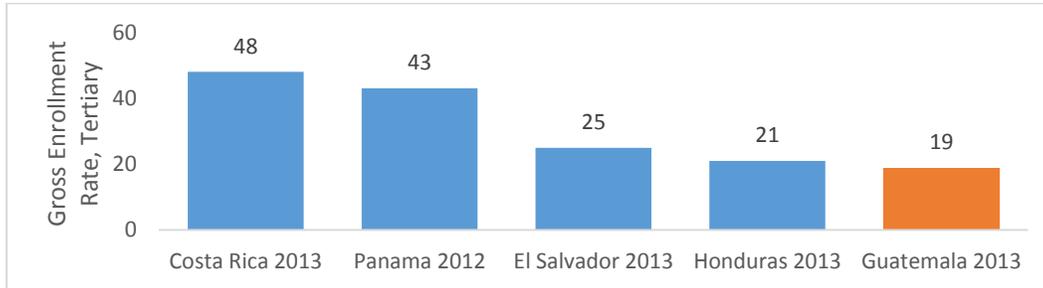
Source: UNESCO Institute for Statistics.

Figure 46: Transition rates to post-secondary education, circa 2009
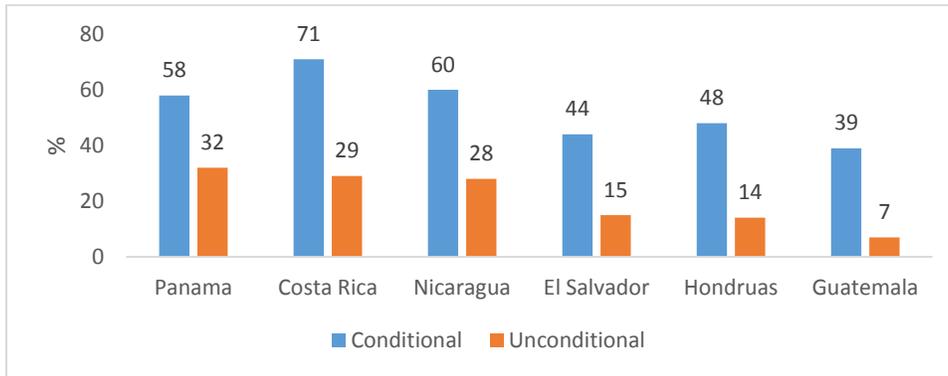
Source: Bashir and Luque (2012). Notes: Data from multiple surveys conducted around 2009. Unconditional transition is the total number of students that start tertiary as a percent of students that started primary. Conditional transition is the percent of students who completed upper secondary and started postsecondary.

Public schools dominate education supply until secondary level; private schools are critical to higher education levels. Pre-primary and primary education is almost exclusively in publicly managed schools. In 2014, pre-primary and primary education public enrollment was 87% and 91% of total enrolment respectively (Figure 47). In contrast, secondary education depends heavily on non-public schools. In 2014, public secondary schools comprised 56 and 27% of lower and upper secondary enrollment respectively. Public secondary schools have limited numbers of available places, forcing students who can afford to pay into private schools or to terminate their education at the primary level.[10] Tertiary enrollment also relies heavily on private institutions, which serve just over half of all tertiary students. Future increases in the numbers of students in

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[10] Cooperative secondary schools often serve as low-cost alternatives for the poorest families in lower and upper secondary, some of which receive local public support.

higher education will have to rely on private institutions, as there is only one public higher education institution in the country.

Figure 47: Enrollment in public, private and cooperative schools, 2014
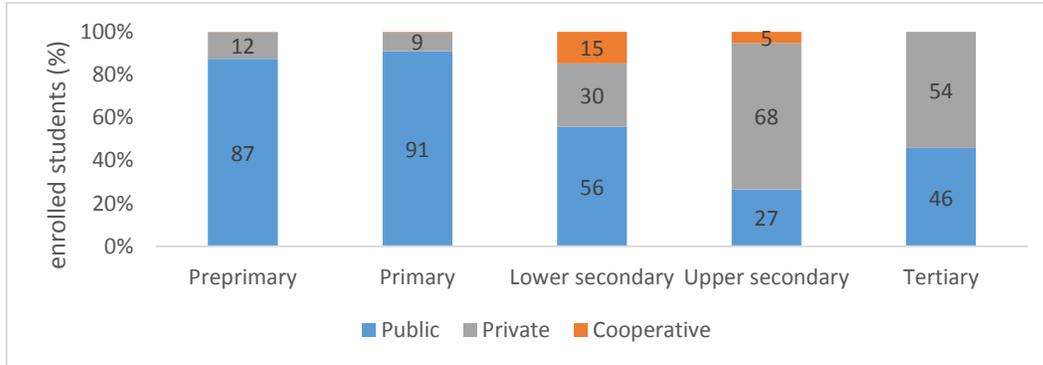
Source: ENCOVI (2014). Note: Community and Municipal schools were included as public; NGOs were included as private. Cooperative schools have some public financial support.

Wealthier households attend private schools, especially at the beginning of the secondary level. According to the 2014 ENCOVI, wealthier households enroll in private schools at a much higher rate than poor households. Less than 1% of the poorest quintile of households enroll students in private primary schools; 29% of students from the wealthiest household quintile are in private primary schools (Figure 48). Wealthy households can choose between public schools and high-cost private schools, which often have better facilities and more qualified teachers than public schools and may have better learning outcomes and completion rates (Ruano, 2003; Marshall, 2010). Poor households often have to choose between public schools and low-cost private schools, which can have worse outcomes than public schools.

Figure 48: Public and private enrollment by wealth quintile, 2014
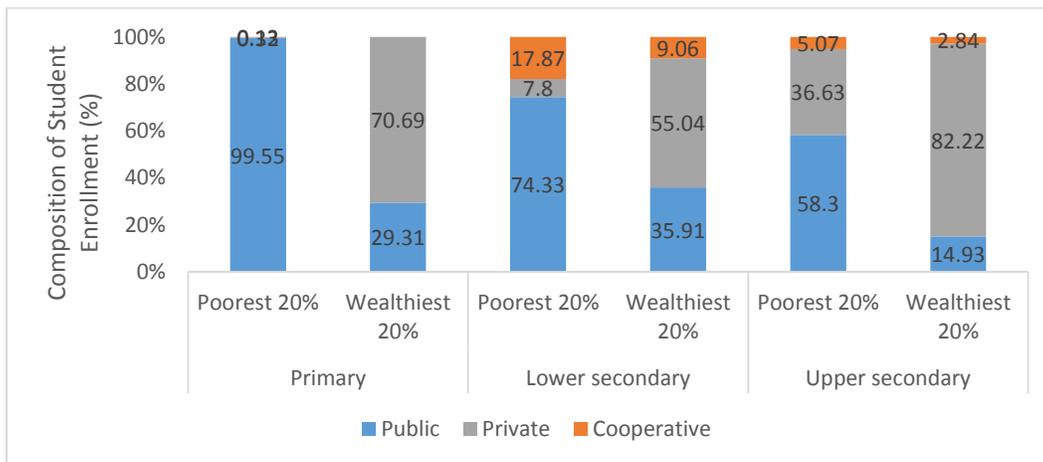
Source: World Bank SSEIR team's analysis of ENCOVI 2011 data. Authors' calculations using ADePT software

Financial constraints are the most frequently reported main cause of not dropping out of secondary education. In 2014, 51% of parents of out-of-school lower secondary age children reported lack of money as the main reason, 10% said that their children had to work (Figure 49). The low level of public secondary education funding is the likely underlying cause. Countries with low education spending often pass costs on to households through tuition, class and activity fees, shifting costs for basic supplies to students, limiting enrollment.[11] The second most mentioned reason for dropping out was lack of interest, but at 18%, this was the lowest in the region (Figure 50). This may be related to the low quality of education, and/or to low perceived returns to secondary education. In 2011, 19% of the population aged 15-19 years in Guatemala were neither working nor in school ("*Ninis*"), above the Latin America average of 14%.[12] Many of these youth cannot afford secondary school and lack economic opportunities. Only 1.5% of secondary students cited issues of access (distance, full classes, or no such grade offered).

Figure 49: Reasons for dropping out of lower secondary school in Guatemala (2014)
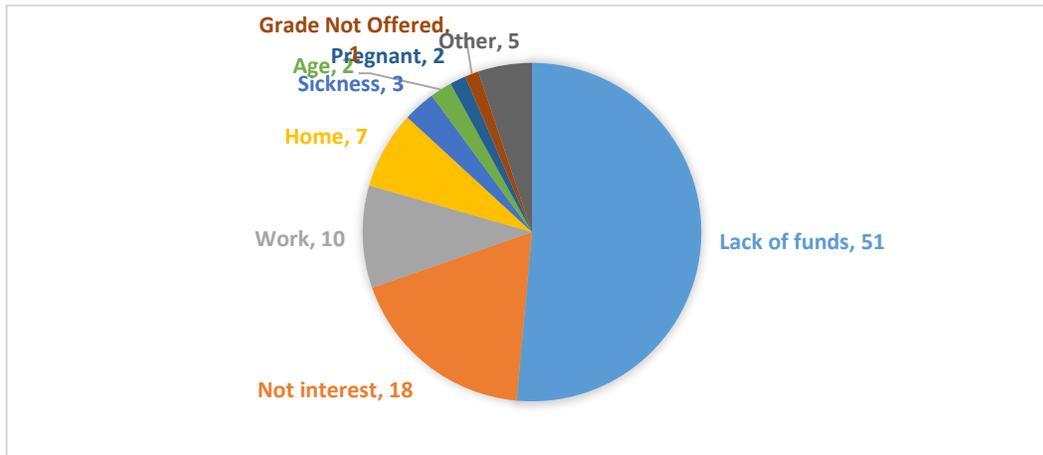
Source: World Bank SSEIR team's analysis of ENCOVI 2011 data, using ADePT software.

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[11] Patrinos (2000).

[12] De Hoyos et al (2015).

Figure 50: Reasons for dropping out of school in Central America, lower and upper secondary
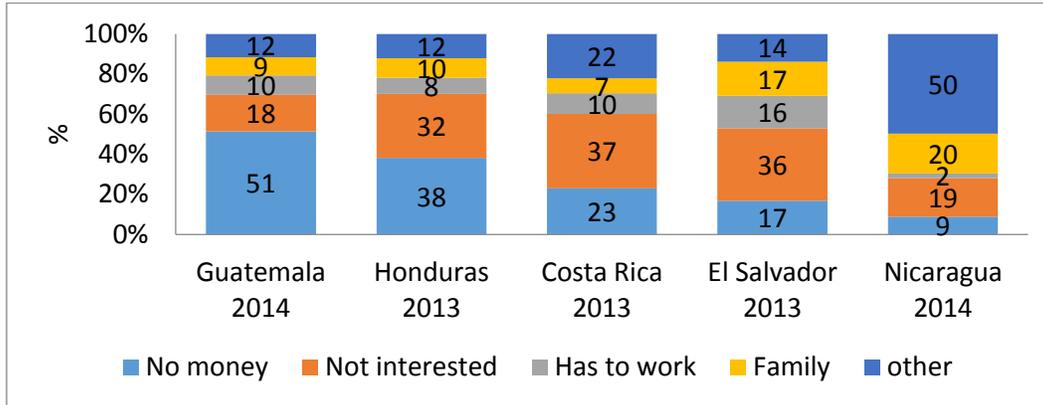
Source: World Bank SSEIR team's analysis of ENCOVI 2014 data, using ADePT software.

Despite similar physical access to schools, there are stark differences in secondary enrollment rates across income quintiles, ethnic groups and rural/urban areas. Participation in secondary education is exceedingly unequal across quintiles, especially in upper secondary education. However, the barriers to education do not appear to be the result of geography: travel time is similar in rural and urban areas through lower secondary (Figure 51). In 2014, the gross enrollment ratio in upper secondary education was 23% for the lowest quintile, increasing steadily with income to 110% for the richest quintile (Figure 52). Secondary enrollment rates also vary substantially between urban and rural areas, with a gross enrollment rate of 79% in urban areas and only 41% in rural areas (Figure 53).

Figure 51: Mean student travel time (minutes) by rural/urban area and education level, 2014
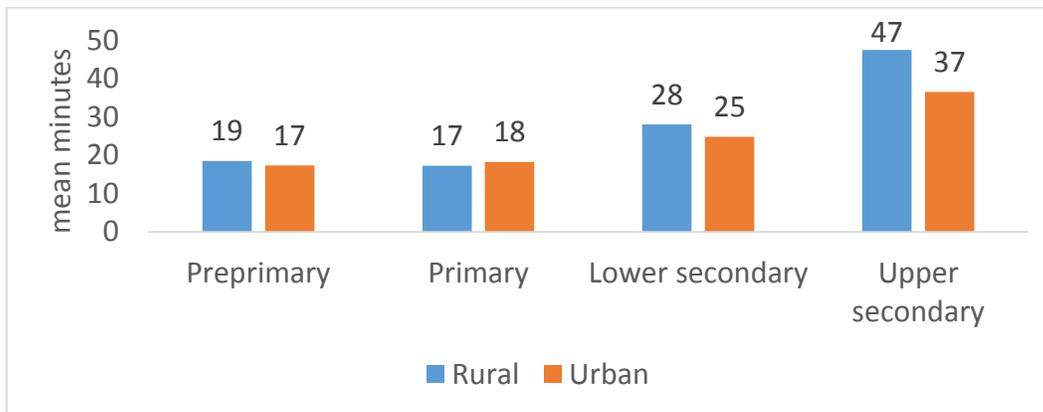
Source: ENCOVI (2014). Note: Travel times are only for children attending school, and include all modes of transportation.

Figure 52: Gross enrollment rate by quintiles, secondary education, 2014 (%)
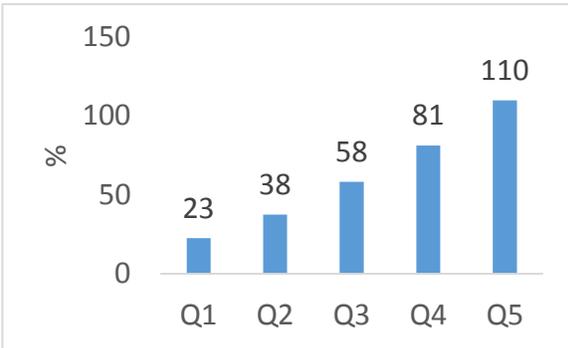
Source: World Bank SSEIR team's analysis of ENCOVI 2014 data. Authors' calculations using ADePT software

Figure 53: Gross enrollment rate by location, secondary education, 2014 (%)
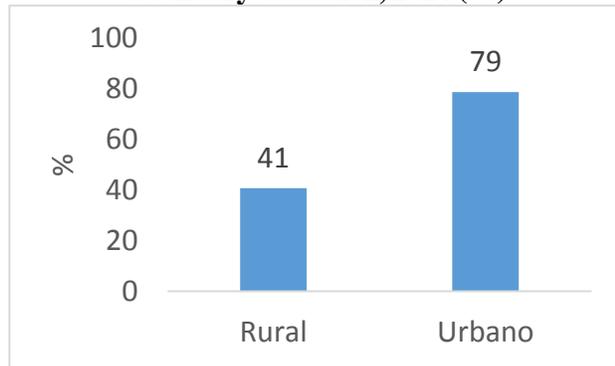
Source: World Bank SSEIR team's analysis of ENCOVI 2014 data. Authors' calculations using ADePT software.

Differences in primary enrollment rates are small, gaps emerge at the start of secondary school. Enrollment rates of urban and rural primary school-age students are similar, but enrollment in rural areas drops significantly and rapidly at secondary school-age (Figure 54). The pattern is similar when comparing indigenous and non-indigenous school-age youth (Figure 55).

Figure 54: Enrollment at ages 5-20 by rural/urban location, 2014
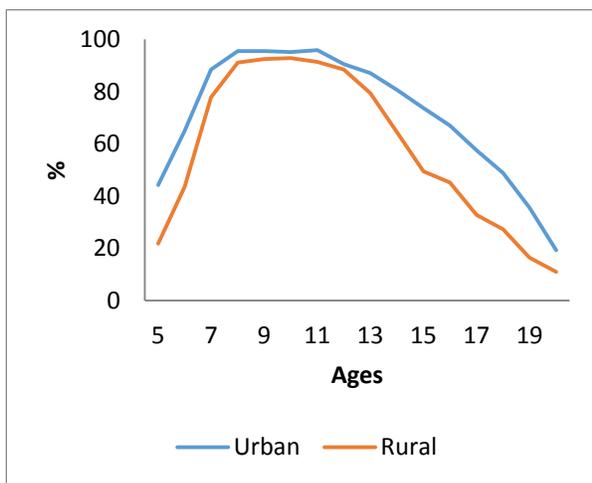
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations

Figure 55: Enrollment at ages 5-20 by indigenous and non-indigenous, 2014
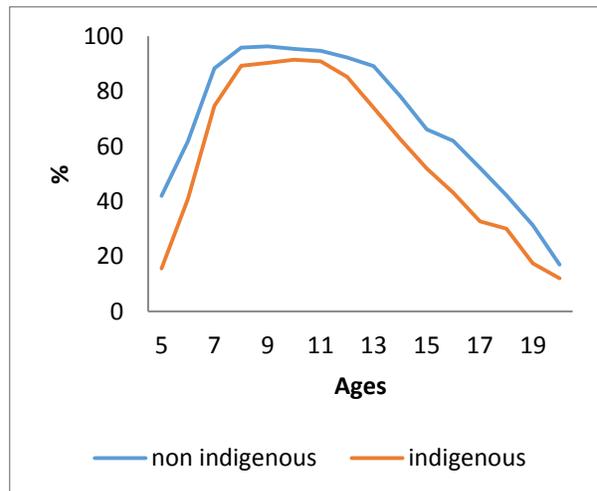
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations

More girls than boys drop out from school, especially at secondary level and in rural areas.
Girls and boys have similar enrollment rates during primary school age, and begin to diverge as
they approach secondary school age (Figure 56). The gap in education outcomes for girls and boys
is primarily driven by enrollment in rural areas (Figure 57). In 2014, in urban areas, 66% of both
girls and boys had completed seven years of schooling; in rural areas, only 38% of rural girls and
43% of rural boys had completed seven years. Attendance is quite high throughout primary age,
but enrollment declines significantly after age 12 years, mostly related to the sharp drops after the
final year of primary school.

Figure 56: Guatemala, enrollment ages 5-20 years by gender, 2014
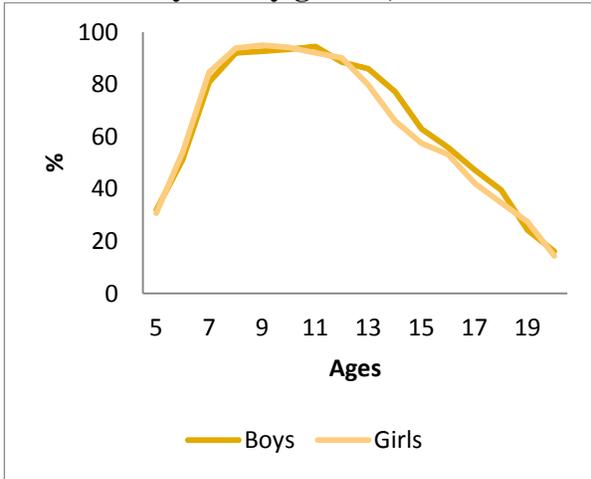
Source: World Bank SSEIR team's analysis of
household surveys, authors' calculations

Figure 57: Number of successfully completed grades, 15-19 year olds
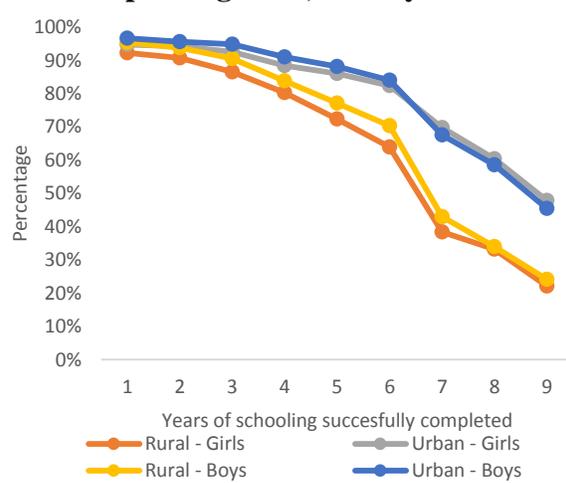
Source: World Bank SSEIR team's analysis of
household surveys, authors' calculations

Boys outnumber girls two to one in some rural secondary schools. While the rest of Central
America has achieved near-equal outcomes for boys and girls, a gap persists in Guatemala.
Nationally, girls make up 47% of secondary students overall and 45% in rural areas. However,
there are stark differences by gender in several rural areas. In rural Alta Verapaz, there are twice
as many boys enrolled in secondary school as girls; in rural Huehuetenango, Baja Verapaz, and
Quiché, there are three boys enrolled for every two girls (Figure 58). Given that girls' access to
secondary is primarily a problem in specific areas, targeted actions to improve girls' access in these
areas could be effective. Survey data on the reasons girls dropped out provide no clear answers:
the only notable differences between girls and boys are the "to work" and "needed at home"
reasons for dropping out (Figure 59). Rural Guatemala has some of the highest rates of child
marriage in Latin America: estimates for child marriage in rural Guatemala are as high as 50%.[13]
The "other" category is small, but careful open-ended discussions with families might uncover

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[13] Amin (2011).

more elusive causes, such as social norms and sanitation issues, or help reveal what kind of interventions might be effective.

Figure 58: Gender composition of students in rural secondary schools, 2012
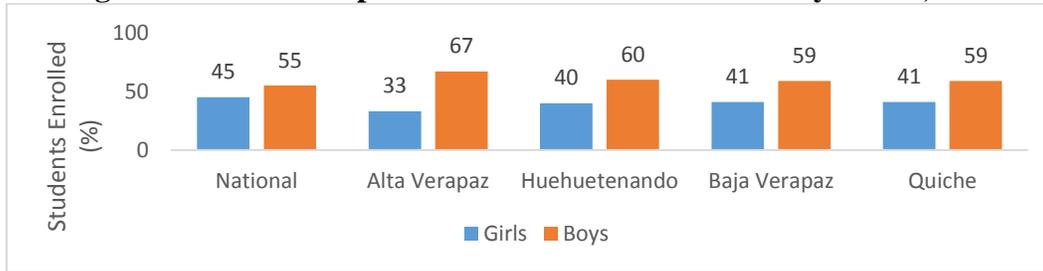
Source: Guatemala Ministry of Education (2012). Rural schools only.

Figure 59: Reasons for dropping out of secondary school by subpopulation, 2014
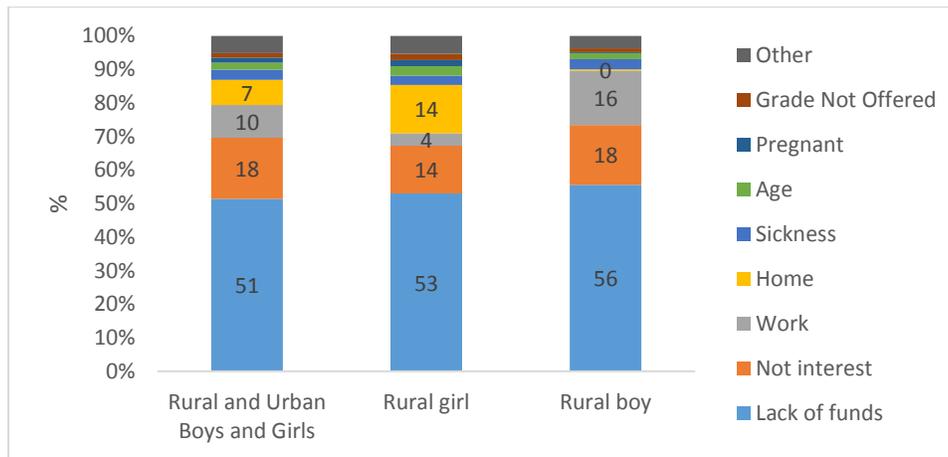
Source: ENCOVI (2014)

Learning outcomes are poor compared to peers in Latin America. In 2006, Guatemala ranked second to last in third grade reading and math among countries participating in SERCE, and third to last in sixth grade reading.[14] A nationwide picture of poor learning outcomes is also clear from the results of national assessments. For instance, MINEDUC 2014 evaluation results show that among students graduating upper secondary education, only one in four achieved the expected level in reading and only one in ten achieved the expected level in mathematics (MINEDUC, 2015). [15]

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[14] SERCE (Secondary Regional Comparative and Explanatory Study) and TERCE (Third Regional Comparative and Explanatory Study) are part of the largest learning achievement study ever implemented in Latin America and the Caribbean. SERCE was conducted in 2006, and TERCE in 2013. They assess learning achievement among third and sixth grade students across 16 Latin American countries.
[15] Results are available at the MINEDUC web page: http://www.mineduc.gob.gt/digeduca/

In recent years, Guatemala has significantly improved learning outcomes. Between 2006 and 2013, the recently published TERCE results show improvements in reading and math (Figures 60 and 61). In 3rd grade reading, the country increased from an average score of 447 in 2006 (ranked twelfth of sixteen in the LAC region) to an average of 495 in 2013, only 15 points below the LAC regional average. Most likely, these improvements in learning at primary level are at least partly the result of the expansion in the number of teachers (by almost 50% in primary and even more in pre-school). It is also possible, since enrollment rates in primary are falling, that some of the improved performance is the result of dropout of the poorest performers. [16] The positive trend in learning is not fully supported by trends in recent national student assessments.

Figure 60: SERCE/TERCE assessment of 3rd grade reading results, 2006 and 2013
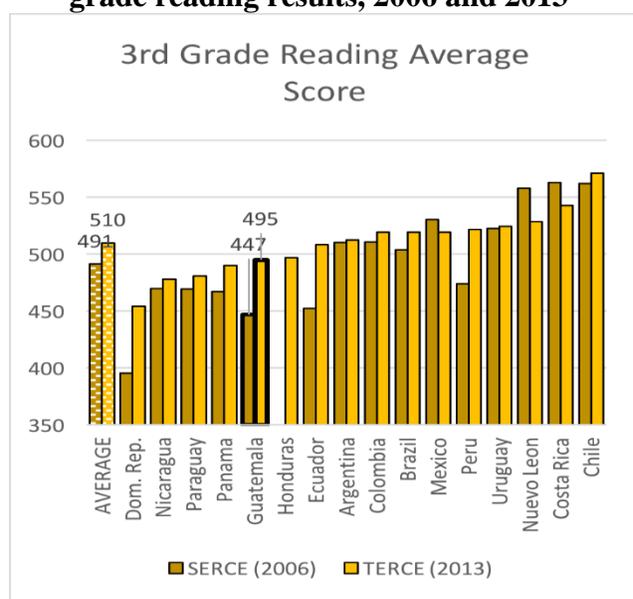
Figure 61: SERCE/TERCE assessment of 3rd grade math results, 2006 and 2013
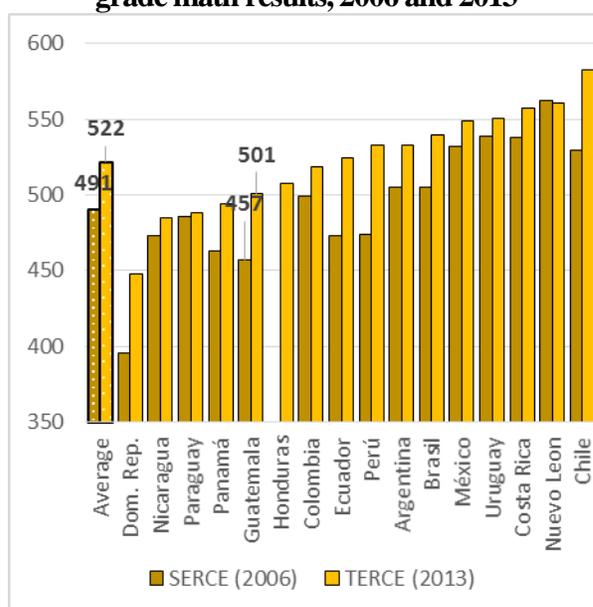
Source: TERCE Primera Entrega (2015). Note: Honduras did not participate in SERCE in 2006.

IV. 3   Institutional Arrangements

The regulatory framework for the Education sector is defined by the Constitution, the National Education Law and the Peace Accords. The Constitution enacted in 1985 states that Education is an entitlement of every citizen and mandates that education provided by the Government be free of charge. Education is supposed to be compulsory from primary level (age 7) to completion of lower secondary (age 15). The Constitution requires that the Government offer

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[16] Compared to other countries, Guatemala has a higher proportion of students not attending primary school. If – as is plausible – their performers is worse than the average, then country performance is higher than it would be if they had still been in school and taken the test.

special education for students with disabilities, upper secondary education (grades 10 through 12) and programs for those who have dropped out of school but would like to achieve a formal education degree. It also mandates that bilingual education be provided in regions with a predominantly indigenous population.[17]

The National Education System is regulated by the 1991 National Education Law (Decree 12-91). The National Education System comprises the Ministry of Education (*Ministerio de Educación,* MINEDUC), education community (students, parents, educators and organizations with educational purposes) and all schools (public and private). The Law does not mention higher education. It recognizes that learning in Guatemala occurs in a multilingual, multiethnic, and multicultural environment with diverse communities. It defines and regulates different forms of education, including initial education, special education, bilingual, and physical education. Other topics covered by this Law include the quality of education, planning and evaluation, supervision, validity of studies, and the financial regime. However, this Law has never been operationalized by a by-law, and continues using the 1977 by-law issued for the previous education law, which has now been superseded. This is one of the biggest legal gaps.[18]

Box 3: The Impact of Extending Compulsory Schooling

In their study of how to prevent secondary-school dropout in Latin America, Almeida et al (2015) find that longer compulsory schooling is associated with lower dropout rates. Some countries in LAC have already extended compulsory schooling through upper secondary. Angrist and Krueger's (1991) difference-in-difference analysis using US data found that, depending on the cohort studied, compulsory schooling laws had kept in school an average of 25% (specifically, between 10% and one third, depending on the cohort) of students who would otherwise have dropped out. Angrist and Kruger report that extension of compulsory schooling is typically accompanied by both restrictions on paid work and direct enforcement by truant officers, which can keep youth in school longer. If government enforcement capacity is weak, or if the government fails to budget the funds necessary to expand access to upper-secondary schooling, then it is possible that the policy would have little effect. Other studies in developed countries have also found positive effects of compulsory schooling: less dropout and improved earnings, health, and wealth of potential dropouts (Oreopoulos, 2006). Studying variations in laws across states and municipalities, Black, Devereux, and Salvanes (2008) found that longer compulsory schooling correlated with better educational attainment and less teen pregnancy in the US and Norway.

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[17] In Guatemala, 22 Mayan languages, Xinca and Garifuna are spoken. The Constitution makes no reference to specific languages beyond saying that bilingual education will be provided.
[18] The National Education Law was approved prior to the Peace Accords and the decentralization framework, and does not include involvement of parents or the rest of the educational community. Another gap is a regulation that would provide an appropriate legal framework for the development of private educational institutions, and verify their results (CIEN, 2015).

Rigorous evidence on the effects of compulsory schooling in developing countries is sparse. Kirdar, Dayioglu, and Koc (2014) apply a regression discontinuity design on data from Turkey, and find large effects of compulsory schooling on school attainment (reduced dropout), despite imperfect compliance with the law. Surprisingly, they find that the policy has increased schooling not only for the years it covers, but also for post-compulsory schooling years. A similar analysis for Taiwan finds that compulsory junior high school substantially increased years of schooling (Spohr, 2003). Note that neither of these papers evaluates compulsory upper-secondary schooling, although the results from the paper on Turkey do show effects on upper-secondary attainment. Given the expansion of compulsory schooling to upper secondary in many countries, this is clearly a topic that would benefit from more rigorous evaluations.

Source: Almeida et al (2015)

The Peace Accords set a series of important targets for total spending, coverage levels, and literacy rates, which were partially met by 2000. The two most important Peace Accords for education, signed in 1995 and 1996, respectively are: (i) Identity and Rights of Indigenous People; and (ii) Socioeconomic Aspects and Agrarian Situation.[19] The Accords agreed that between 1995 and 2000, public education spending as a percent of GDP would increase by at least 50% (it increased 41% from 1.7 to 2.4%); that at least three years of primary schooling be provided to all 7-12 year olds (true for 83% of children in 2001); and that national literacy rates should be at least 70% by 2000 (increased from 63.8 to 70.7% in 2002).

Management of public educational services is fragmented. There is no single institution overseeing the whole education sector (Figure 62). For secondary level and below, MINEDUC is responsible for regulating, directing, planning, supervising and evaluating the country's formal and non-formal education system, including public and private schools. The formal subsystem comprises the initial, pre-primary, primary and secondary levels, and serves those within the legal age limits attending school. The out-of-school or parallel non-formal education subsystem targets those dropping out of the main system.[20] The MINEDUC manages, implements and monitors its out-of-school education programs through the Direction of Out-of-School Education (Dirección General de Educación Extraescolar or DIGEEX). The National Education Council[21] is responsible

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[19] The Accords stress the importance of community participation in the educational process, the need for curricula that integrate the diverse cultures and languages of the country. They also state that education and training are key factors to achieve equity and international competitiveness.

[20] The non-formal system was originally designed to support those whose education was affected by the armed conflict. It includes both skills development courses and paths to complete primary and secondary school equivalents. Distance-learning education is widely used for the latter. Flexibility in the order of grades, ages and skills enables the learner to develop abilities and skills that respond to their personal, labor, social, cultural and academic context.

[21] The National Education Council comprises the MINEDUC, USAC, private universities, Maya National Council of Education, Association of private schools, Coordinating Committee of Agricultural,

in conjunction with the Minister of Education, for analyzing and approving the main policies, strategies and actions of educational administration.

Figure 62: Institutional framework of the education system
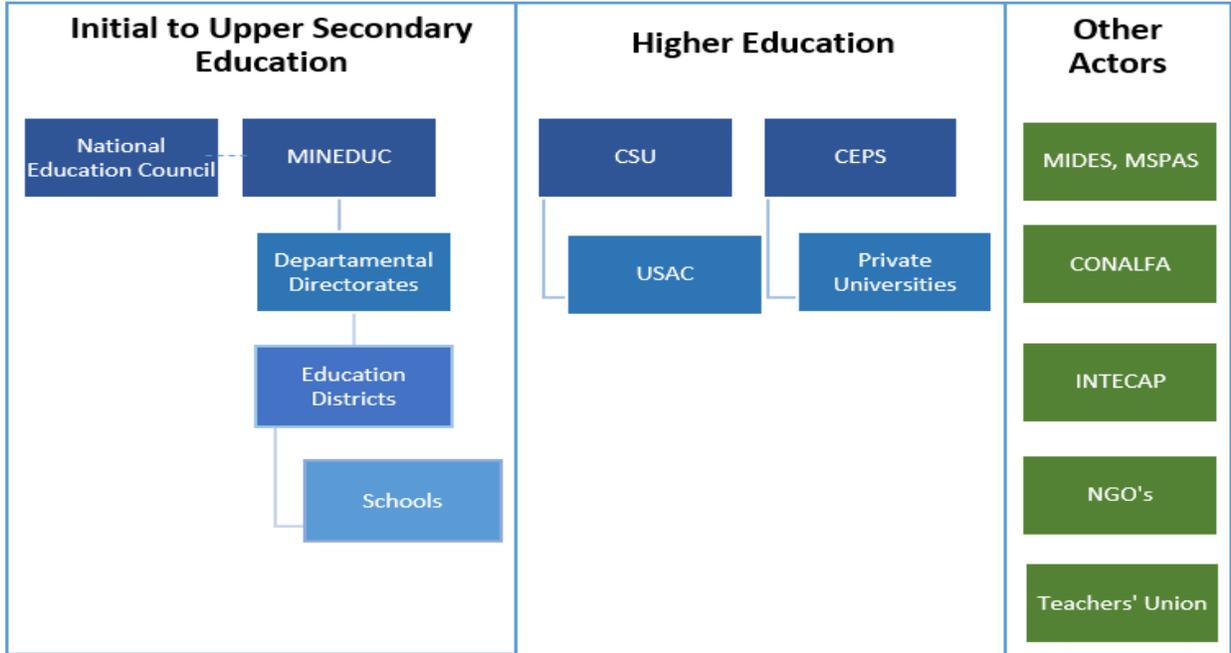
Source: World Bank SSEIR team

Public and private higher education are regulated by different bodies. Public higher education is led by the Superior University Council (*Consejo Superior Universitario* or CSU), which governs and administers the University of San Carlos of Guatemala (*Universidad de San Carlos de Guatemala* or USAC), and is also the advisory council to the President of USAC. The Council of Private Higher Education (*Consejo de Enseñanza Privada Superior* or CEPS) regulates private higher education and is responsible for ensuring an adequate academic level at private universities and authorizing the creation of new universities.

Other government and non-government actors also offer specific educational programs. The Ministry of Social Development (*Ministerio de Desarrollo Social* or MIDES) grants conditional cash transfers to poor families with children 12 years or older for secondary education (*Mi Beca Segura*) and offers workshops for vulnerable groups. The Ministry of Health (*Ministerio de Salud Pública y Asistencia Social* or MSPAS) provides health related educational services. The National Literacy Committee (Comité Nacional de Alfabetización or CONALFA) is responsible for defining and approving the policies and strategies of the national literacy process and also for implementing the literacy program for youth and adults, in Spanish and other national languages.

Commercial, Industrial and Financial Associations (*Comité Coordinador de Asociaciones Agrícolas, Comerciales, Industriales y Financieras* or CACIF), among others.

The Technical Institute for Training and Productivity (*Instituto Técnico de Capacitación y Productividad* or INTECAP) is the leading training institution for technical training. NGOs also provide a wide variety of educational services. The Education Workers Union of Guatemala (*Sindicato de Trabajadores de la Educación de Guatemala* or STEG), is considered the most representative teachers' union in the country, with over 38 thousand members.

The structure of the formal education system is similar to that of other Latin American countries (Table 2). Initial education for 0-3 year olds, monolingual (Spanish) pre-primary for 4-6 year olds, bilingual pre-primary (Mayan languages and Spanish) for 4-6 year olds and accelerated pre-primary for children 6 or older who have not attended school before.[22] Pre-primary is not a requirement for enrolling in primary school, which is mandatory. Primary education is directed to 7-12 year olds and has two cycles: basic primary (grades 1 to 3) and complementary primary (grades 4 to 6). Secondary education is directed to 13-18 year olds who have completed six grades of primary school and has two cycles: basic lower secondary (grade 7 to 9) and upper secondary (grade 10 to 11-12, depending on the career that is chosen by the student[23]). University education is open to students who have completed secondary education. Universities generally offer technical programs of 3 years and 4/5-year bachelor's degrees or "*licenciaturas*" (architecture, law, medicine, psychology, and engineering, among others).

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[22] Accelerated pre-primary began in 1994 as an alternative for children 6 and older who had not attended school before, usually children from poorer communities, and is taught in 35 days.
[23] The most common upper secondary level tracks are: accounting, science and letters, education, computing, secretarial studies or business administration. These teach basic technical skills which enable students to work after graduating. In order to obtain a degree in these fields, students must continue their studies at University.

Table 2: Institutional framework of the education system

Education Level	Cycle/ Modality	Age	Grades
Initial		0-3	
Pre-primary	Monolingual and bilingual	4-6	1 to 3
	Accelerated pre-primary	6 or older	(35 days) equivalent to grades 1-3
Primary	Basic primary	7-9	1 to 3
	Complementary primary	10-12	4 to 6
Secondary	Basic Lower secondary ("*Ciclo Básico*")	13-15	1 to 3 (grades 7-9)
	Upper secondary ("*Ciclo Diversificado*")	16-18	1 to 3 (grades 10-12)
Higher Education	Technical programs	19 and up	duration of 3-3.5 years
	"*Licenciaturas*"	19 and up	duration of 4-5 years

Source: World Bank SSEIR team (2016)

Over the last five years, MINEDUC has made progress in strengthening monitoring and evaluation of student learning, implementing and promoting national and regional student assessments. The country has solid data sources compared to peer countries, but could build stronger school level data for enhanced decision-making processes. Currently, MINEDUC conducts annual standardized tests in reading and mathematics for students graduating upper secondary education (grades 11 and 12). MINEDUC also evaluates other grades of primary and secondary levels (grades 1, 3, 6, 9), but not annually.[24] Test results are publically available on MINEDUC's web page by year, grade, area (urban/rural) and gender. Additionally, MINEDUC

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[24] Standardized student assessments are carried out by DIGEDUCA with different periodicity for different grades. Between 2006 and 2014, DIGEDUCA evaluated students graduating from the 11th and 12th grades, with an annual national exam. The 9th grade was evaluated every two or three years, the least evaluated grade in this period. For 1st, 3rd and 6th grades, national exams were carried out every year or two. Since 2006, these grades have been evaluated every year except 2011 and 2012 (in 2007 only 3rd and 6th grades were evaluated). Assessments at 9th and 12th grades test all enrolled students. Evaluations of primary levels use a stratified random sample (representative at the municipal level). Evaluations of 9th graders and graduating students assess abilities and life skills in math and reading. When DIGEDUCA started testing at these levels, the Base National Curriculum Base (Currículo Nacional Base or CNB) for these grades did not exist, so evaluations are based on the minimum skills needed by young people to enter the workforce. Assessments at primary level evaluate the contents, skills and standards established by the CNB in Math, Communication, and Reading. In the years ahead, (2016-2024) MINEDUC plans to test a sample of students every year for 1st grade; every two years for 3rd grade, and to rotate between sampling and census tests every two years for 6th grade. It also plans to continue census tests for 9th grade and graduating students every 3 and 1 years (Ministry of Education, 2014). However, actual testing periods may vary depending on budget.

participated in regional assessments at primary and secondary levels in 2006 for SERCE, 2009 for ICCS and 2013 for TERCE (UNESCO, 2015).[25] Currently the MINEDUC is building the technical and administrative conditions for Guatemala to participate in the Program for International Student Assessment (PISA), which evaluates education systems worldwide by testing the skills and knowledge of 15-year-old students. Guatemala will join the PISA for Development[26] designed for countries with low per capita incomes. The first results of this evaluation will be available in December of 2018 and will allow the country to identify its strengths and weaknesses. The Ministry of Education also produces good quality school cards (*ficha escolar*), which provide a snapshot of every school and allow easy dissemination of the information to civil society and local communities.[27] The school card student level information includes gender, drop-out rates and existence of mono or bilingual education. However, information regarding the quality of the school itself is generally missing and could be collected by a systematic school census.[28] This would allow a better assessment of each school's needs.

The professional in-service teacher training program is a step in the right direction towards creating a culture of continual teacher improvement; but evaluation, sustained funding, and incentives are lacking. The PADEP/D program aims at upgrading the skills of the teacher corps in Guatemala, from pre-primary to upper secondary levels.[29] One of the key elements that allowed the program to reach teachers from the poorest communities was that it offered the training at municipal level, in the communities where teachers work and live, lowering participation costs. From 2009 to 2014, roughly 11,000 pre-primary and primary teachers graduated from this program

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[25] At the primary level Guatemala participated in the Latin American Laboratory for Assessment of the Quality of Education (LLECE), which coordinated SERCE (*Segundo Estudio Regional Comparativo y Explicativo*) and TERCE (*Tercer Estudio Regional Comparativo y Explicativo*), and at the secondary level, in the International Assessment of Civic education and Values (*Estudio Internacional de Educación Cívica y Valores* or ICCS) in 2009.

[26] The countries that have signed a participation agreement with the OECD to participate in PISA for Development are: Guatemala, Ecuador, Senegal, Zambia, Cambodia and Paraguay.

[27] The school card (*ficha escolar*) is available on the Ministry of Education website, which displays general data on each of the country's schools. The data available on the card are: school name, address, whether or not it has a School Board, number of students per grade and gender, number of promoted and not promoted students, retention, drop-out, repetition, mono- or bilingual education, special education, languages used at each school, name of director, supervisor and supervisor, contact information, budget allocation, and standardized tests. Data can be displayed by year, population, gross enrollment, net enrollment by level, by grade, and at the national, departmental and municipal levels. School card data can be viewed at school level, contributing to enhanced local social audit. See http://estadistica.mineduc.gob.gt/fichaescolar/ and http://estadistica.mineduc.gob.gt

[28] Honduras is a good example. They recently implemented a National School Infrastructure Plan: *Plan Maestro de Infraestructura Educativa"*, based on a school infrastructure census that gathered information on the specific needs of each school in terms of quality and quantity. This could be used as an example for developing an equivalent instrument in Guatemala.

[29] In 2012 three years of university studies were added to initial teacher training, which used to be done at the upper secondary level.

(10% of 108,000 pre-primary and primary level teachers hired by the MINEDUC in 2014)[30], which helped increase the credibility of the program. By the end of 2015, 10,000 more teachers had graduated. The PADEP/D was the subject of three program evaluations corresponding to different cohorts of participants:[31] these evaluations found demonstrated improvement of pedagogical ability of pre-primary and primary level teachers. In order to graduate, teachers must show evidence of class management practices where they apply knowledge learned from different modules. Additional evaluations of the third and fourth cohort will focus on the program's effects on student learning.[32] This will shed more light on quality issues. The program lasts four semesters and is financed through a per capita allocation, ranging from USD535 in 2009 to USD605 in 2014 per teacher per semester.

The long term sustainability of the professional in-service teacher training program requires financial planning and closer linkages with career progression. While PADEP/D can serve as a starting point to integrate ongoing and systematic teacher professional development, it will require a substantial allocation of funds. In addition, teachers need incentives to take part in professional development. Currently, professional development is not linked to teacher evaluations, career path or salary increases.[33] However, as more teachers obtain the certification, there will be greater pressure for the MINEDUC to raise wages.

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[30] In 2014 the MINEDUC also hired 22,000 secondary level teachers, and private schools hired 27,000 - primary and primary level teachers.

[31] These evaluations conclude that among the achievements are: 1) teachers have a viable and credible option to study at the university level; 2) dialogue with the teachers union regarding continuous teacher training in valuable; 3) there has been a positive change in the attitude of teachers, who are now more willing to continue their studies and motivated to participate actively within their communities; and 4) diversity is better integrated in the classroom. They also note room for improvement, with the following challenges: 1) accelerated implementation resulted in low quality planning in some instances; 2) difficulties arising from massive coverage of the program - such as inadequate facilities: the program uses primary school facilities and desks which are not intended to be used by adults; 3) more depth is needed in classes for bilingual teachers, which did not always meet the expectations of teachers who work within indigenous communities; 4) increase the time for in-class observation of students by reducing the number of students per class; 5) improve the evaluation of trainers.

[32] The evaluations of the first and second cohort (2011 to 2012) aimed to measure achievement of the objectives of the in-service teacher-training program (not the teachers). They used quantitative methods on a sample of 2,657 students, 149 teachers and 46 pedagogical advisers, and qualitative methods in 10 focus groups and 4 case studies. The second study had less depth as it came so soon after the first report. The evaluation of the third and fourth cohort aims to assess the teaching competencies of PADEP teachers. This evaluation began in 2014/15. The Ministry will conduct classroom observations and film classes, evaluate teacher portfolios, assess student notebooks, and include peer review (from other teachers), assessment by director of the school, and teacher self-assessment.

[33] Past wage increases have not been linked to performance, but were reached through collective agreements with teachers with permanent positions (the latest increase was 12% in 2015).

Past administrations focused on teacher training; future gains in teacher quality could come from better recruitment, compensation and teacher evaluation processes. The current teacher selection process does not ensure that the best and most motivated teachers are hired (CIEN 2015). Under legislation passed in 2013, selection of permanent pre-primary and primary teachers is based on five criteria and done through a competitive examination. However, only one of the five selection criteria relates to applicants' competencies and skills, and makes up only 15% of the total score.[34] Results from the application exams clearly show the low quality of the potential teaching candidates. When a teaching post opens, the job is offered to the candidate with the best results at the municipal level from a waiting list of teachers who previously applied for a job in the municipality. Candidates from neighboring municipalities are not considered, despite being more qualified in many cases. Teacher compensation has three components: the base salary, an increase depending on pay scale category and bonuses (bilingual teacher bonus when it applies). Currently, compensation is linked to time in service, but not directly linked to teacher performance reviews or other meritocratic criteria.[35] Although in theory promotion can be informed by performance, teachers generally receive pay promotions automatically every four years (Figure 63).[36] Current legislation includes an evaluation of teaching service, however performance assessments and not done regularly and do not directly impact teachers' career development.

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[34] The five criteria are: (1) length in service; (2) residence; (3) academic merit and credentials; (4) merits in the teaching service and community outreach; (5) quality of service. The latter takes into account a diagnostic test that evaluates teachers' knowledge in language, mathematics and teaching skills. The 2014 results of the diagnostic tests show that on average, teachers who took the test passed only half of the language and teaching strategy questions. On average only one third of mathematics questions were answered correctly. This reflects the low quality of potential candidates.

[35] Decree 1485 of the Congress of Guatemala states that basic teacher salaries shall be determined annually by the Government. This Decree also determines the pay scale applied to teachers, defining six salary categories (A to F), rising in 25% increments. Category A, for new teachers, is the base salary and category F is the base salary plus an increase of 125% over the base. Every four years, teachers move up one category. The increase is supposed to be conditional on time in-service, quality of work and academic achievement. In practice, school directors certify that most teachers meet the criteria to scale-up every four years. Every year 27-30 thousand teachers rise a category). In 2015, total monthly salaries in category A (base salary) ranged from Q524-Q3,143 equivalent to USD68-USD408, depending on the type of teacher post (teacher for 5 periods, physical education teacher, specialized teacher, director). Total monthly salaries of teachers in category F ranged from USD153-USD918. Pay is not affected by teachers' years of schooling.

[36] This is not necessarily inconsistent with the compressed teacher wage curve vis-a-vis other professions shown in figure 33. The decree establishing regular teacher pay promotions is recent. Most importantly, the resulting salary changes are most likely still much smaller than those seen by professionals in the private sector. For example, making double the initial pay after 20 years of service (for someone who starts working reasonably young and without completing higher education) is still a much smaller increase than in private sector occupations with similar skill levels.

Figure 63: Teachers' salary pay-scale
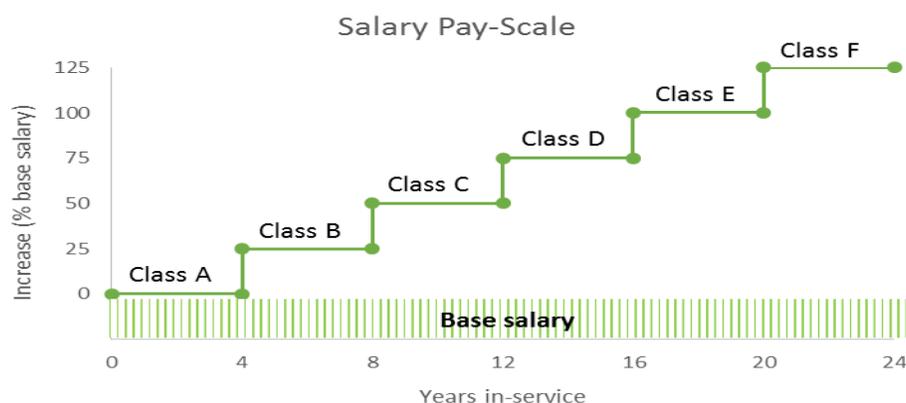
Source: World Bank SSEIR team, authors' calculations

The budget of the MINEDUC is constrained by delayed release of General Budget funds, affecting timely staff payments and timely and quality implementation of programs. There are generally delays in the public sector budget approval, regularly affecting the release of education funds. Even when the budget is approved in a timely manner, funds are not officially released until late February or March the following year, resulting in significant and frequent payment delays for contracts and salaries of non-permanent staff (World Bank, 2013). This has large operational implications for the MINEDUC, deterring contract competition and reducing the attractiveness of the teaching profession. Only educational staff with regular (permanent) positions are paid in a timely manner. Budget dynamics paralyze non-wage bill-based interventions and contract-based staff payments, despite the availability of funding from external donors. In addition, the Ministry of Public Finances adds further constraints on the use of funds in designated accounts of MINEDUC: no replenishments are authorized until 50% or more of the funds have been used.

Having only one public university in the country creates a bottleneck in access to tertiary education and constrains the equity of the system. The Constitution names the USAC as the only public university, and does not consider the possibility of other public universities. It grants sole leadership and development of the Government's higher education system, and sole authority to grant recognition to graduates from foreign universities. USAC accounts for around 60% of the almost 294,000 students in higher education; 14 private universities account for the rest. Students at private universities pay monthly fees of USD50-USD700; USAC charges a yearly fee of USD13. Having only one public higher education institute limits access to free higher education, especially for low-income students who cannot afford fees charged by private universities.

Allowing additional public universities could benefit students who currently lack access to higher education.[37] This would require strong political will, legislative changes and a budget adjustment.

Finally, further development of the information systems is needed to strengthen monitoring and evaluation of MINEDUC's programs and for better decision making at all levels. The information system should integrate periodic data from national and international student assessments and teacher evaluations in order to monitor the quality of the education system in a more integral way. MINEDUC produces high quality evaluation documents through DIGEDUCA, but often they are donor-driven and funded. These more profound analyses of specific programs are a necessary tool for decision making. More systematic funding must be allocated to enable the production of evaluation documents to be institutionalized. Also, it will be important to strengthen the monitoring capacity of MINEDUC at local levels, not just at the central level. Information systems need to enable real-time dissemination of information to different stakeholders and decision-makers. Results could then be used to guide policy making, to reward schools with the best learning achievements (after controlling for the socio-economic background of students) or to strengthen teacher incentive programs. Better information systems will increase transparency in the use of public funds and foster accountability.

V.   Performance and Challenges in Health

V.1   Recent Evolution of Health Public Spending

Between 2007 and 2014, Guatemala's total public spending on health increased but per capita spending remained almost constant in real terms. Total public spending in 2007 constant local prices increased by 50% from 2007 to 2014 (Figure 64). However, per capita public spending on health in constant 2007 dollars remained almost constant, fluctuating around an average of $116, alternating with Honduras and Nicaragua in having the lowest real per capita public spending on health in CA (Figure 65).

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[37] There are different ways to increase the supply of higher education, such as authorizing the operation of two or more public universities, or public-private partnerships, and/or offering scholarships to students and allowing them to choose the university they prefer.

Figure 64: Public spending on health in constant Quetzales, 2007-2014
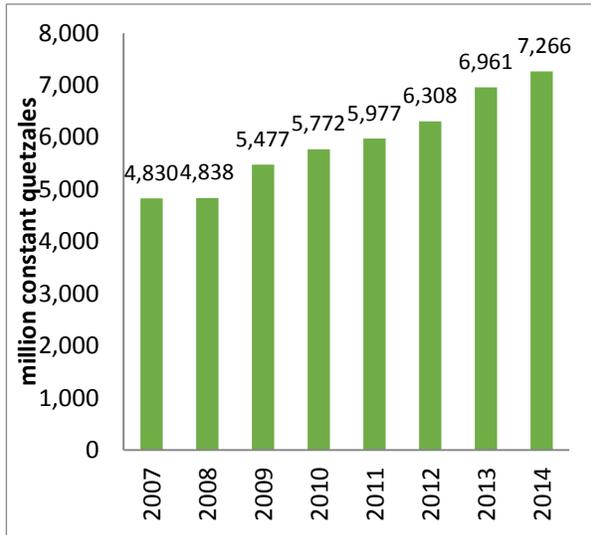
Source: World Bank SSEIR / ICEFI social public spending database

Figure 65: Per capita public spending on health (constant dollars, PPP 2007) [38]
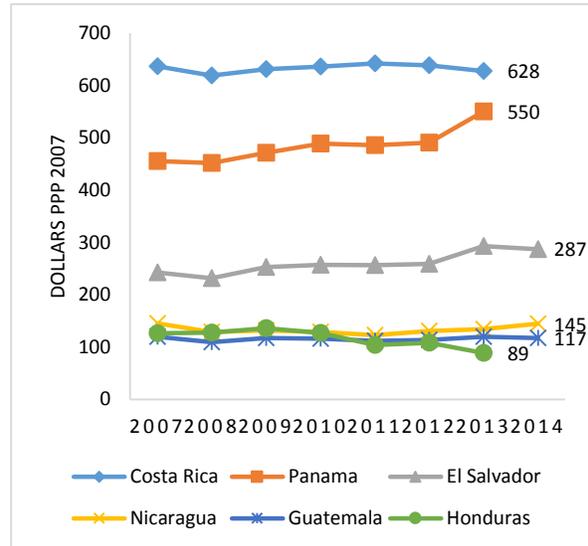
Source: World Bank SSEIR / ICEFI social public spending database

Guatemala's public spending on health as a share of GDP also increased during this period but remained lower than CA and LAC averages. Figure 66 shows that from 2007 to 2014, public spending on health as a share of GDP in Guatemala increased by 22%, from 1.8% to 2.2%.[39] Despite the increase, this is the lowest in CA. It is also lower than the LAC average, but higher than the average for lower middle income countries (Figure 67).

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[38] PPP is purchasing power parity or international dollars; it refers to currencies adjusted across countries to make the value of purchased goods and services comparable.

[39] In the Guatemala National Health Accounts (NHA) 2015, public spending on health includes spending from the National Fund for Peace (*Fondo Nacional para la Paz),* and shows the percent of public spending/GDP unchanged at 2.3% in 2007 and 2013, with some fluctuations in the years between. The NHA used MOF and Central Bank of Guatemala estimates for GDP while this study used IMF data to be comparable with the results of other CA SSEIR countries.

Figure 66: Guatemala public spending on health as percent of GDP, 1978-2014
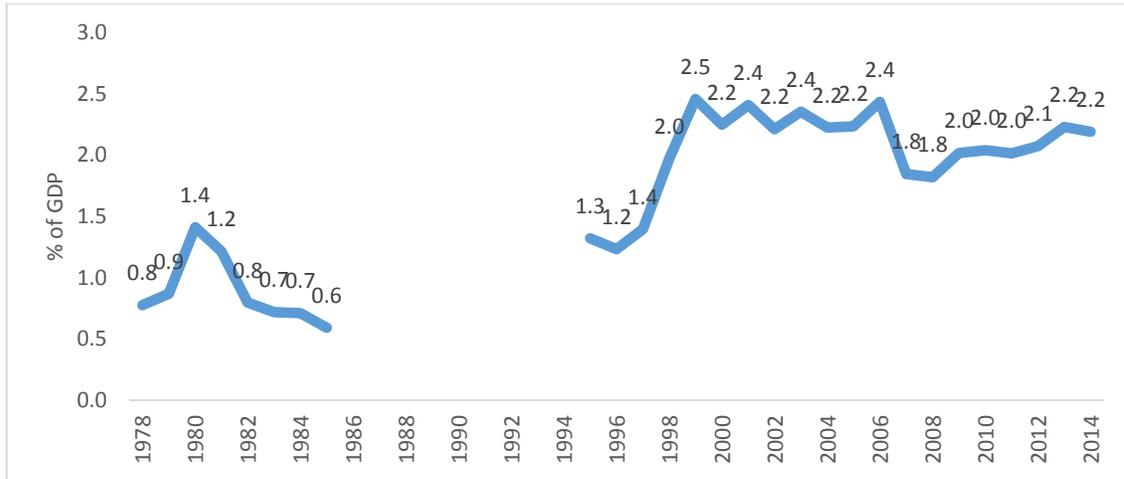
Source: Calculations based on World Development Indicators, World Bank (1985) for spending 1978-1985, World Development Indicators for spending 1993-2006, and World Bank SSEIR/ICEFI social public spending database for 2007-2014.

Figure 67: Public spending on health as a percent of GDP and GDP per capita (constant 2005 USD)
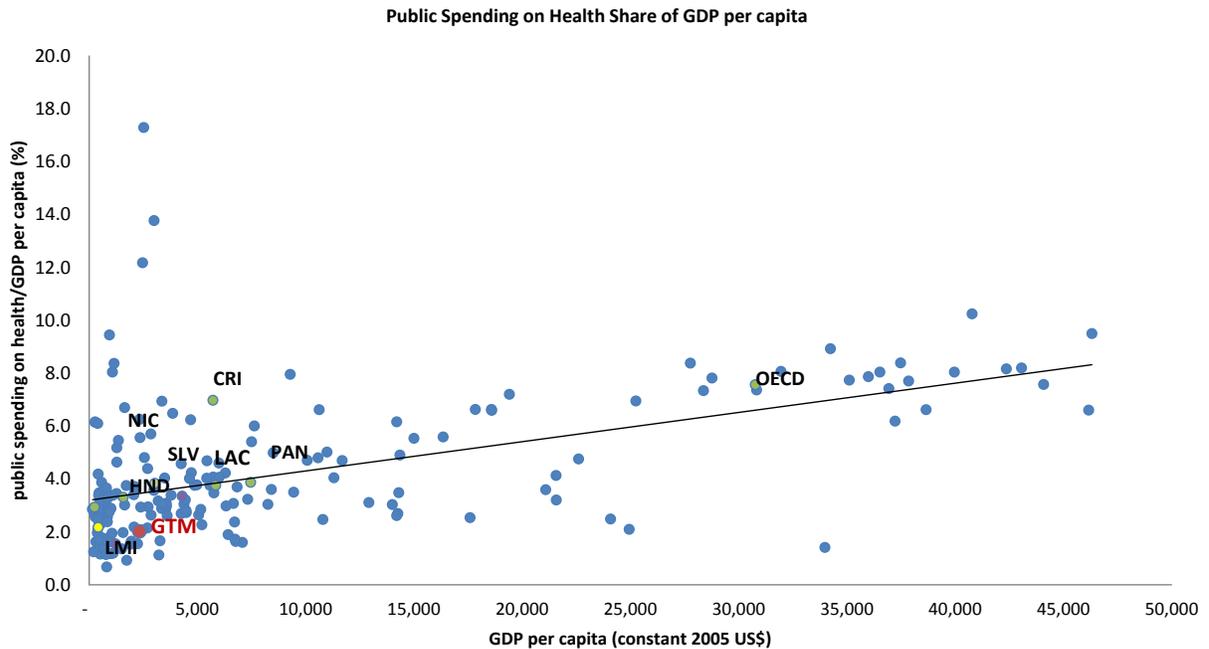
Source: World Bank SSEIR / ICEFI social public spending database for CA countries. WDI for the rest.

The private spending share of total health expenditures consistently has been almost double the public share. Despite the 2008 Government Policy that established that health services in

public facilities are free of charge and the increase in public spending on health, private spending continues to account for a significantly larger share of total health spending than public spending. Although the share of private spending decreased from 68% in 2005 to 63% in 2013, it has never gone lower than its 1995 share of 60%. Figure 68 shows that the private share of total health spending in Guatemala is higher than the averages for LAC (49%) and CA (42%), and almost equal to the LMC average (36%).

Figure 68: Guatemala trends in public-private spending shares on health: 2007-2014 and. CA, LAC and LMC averages (2014)
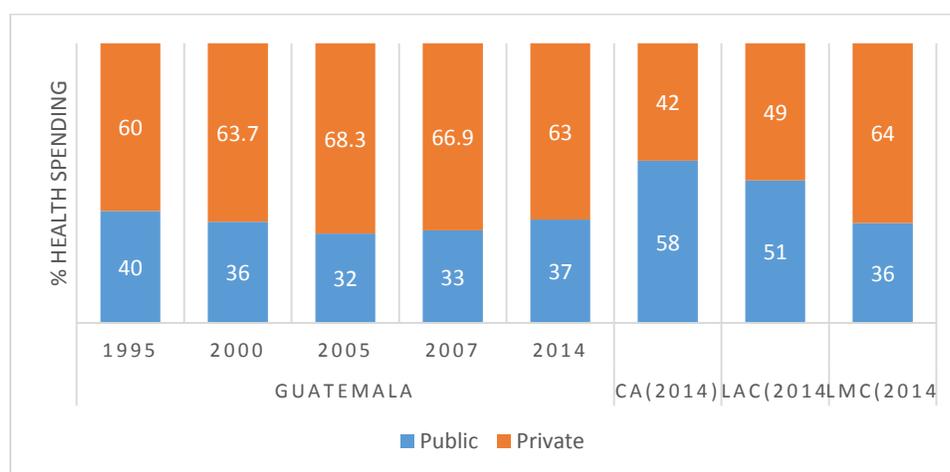
Source: GT MOH: National Health Accounts 2015 and WDI 2015

Insurance coverage is low throughout the country and lowest for the poorest and those who live in rural areas. Approximately 17% of the population were insured with the Social Security Institute in 2013 (direct affiliates and their beneficiaries),[40] even fewer had access to private insurance. As a result, as discussed below, estimated household out-of-pocket payments continue to be a large share of total private expenditures.

Household spending as a share of total health expenditures in Guatemala has decreased but remains significant. Partly as a result of increased insurance coverage and because of the 2008 Government policy of free access to health services in public health facilities, household out-of-pocket spending declined as a share of total health expenditures from 55% in 1995 to 52% in 2013, and decreased as a share of private spending from 92% in 1995 to 83% in 2013. The latter is higher than the LAC average of 68% but lower than the CA average of 86%.

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[40] Approximately 8 percent of the population are direct affiliates; their spouses and children under 7 years of age comprise the rest of the beneficiaries.

Two main public institutions (the Ministry of Health and the Social Security Institute, IGSS) provide most health services in the country.[41] The MOH offers care to the entire population although estimated coverage rates vary - depending on the source - from approximately 50% to 82%.[42] The IGSS, the second largest provider, caters to its affiliates and their families, reaching 16 to 18%[43] of the population. The third provider of health public services, the Military, covers only about 0.5% of the population, providing care to its employees, the national police force and their families, and retired officials. The private sector includes for-profit and non-profit service providers. The MOH estimates that the private sector provided 34% of services in 2012. This is close to the ENCOVI 2011 estimate of 33% for consultations in private clinics and private hospitals but more than the ENCOVI 2014 estimate of 26% (Figure 69).

Figure 69: Guatemala: type of health facility consulted when ill, 2014 (%)*
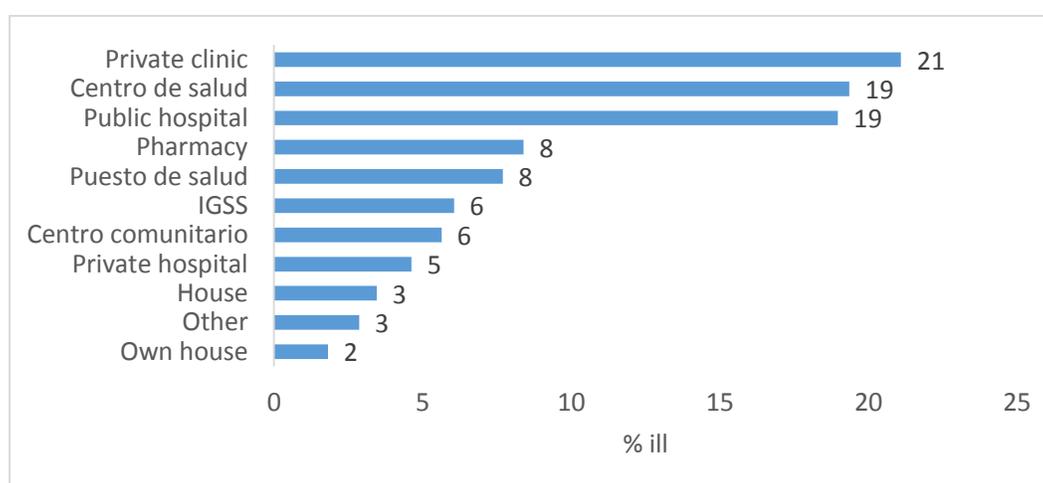
Note: *Community centers (centros comunitario) were managed under the MOH's Extension of Coverage Program.
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Health Module).

The poor tend to use public services the most. Eighty-five percent of the lowest consumption quintile households used public health facilities, with 51% of them consulting with public primary care facilities (health post, health center, or community center supported by the Extension of Coverage Program or PEC). On the other hand, only 43% of the high income households used public facilities with a much smaller percentage (13%) consulting with a public primary care facility (Figure 70).

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[41] The public sector includes the MOH, IGSS, Ministry of Defense through its Department of Military Health (DMH), and Ministry of Governance, which manages the National Police Hospital (NPH).
[42] Estimates range from 50% (MOH 2012) to 72% (Berkil 2011) to 82% (MOH/CNE 2007)
[43] Direct affiliates with IGSS account for 8% of the population but the number of affiliates plus their beneficiaries is close to 18% (Berkil n.d.), MOH 2012 puts the figure at 15%.

Figure 70: Use of health facilities by public and private and quintiles, 2014
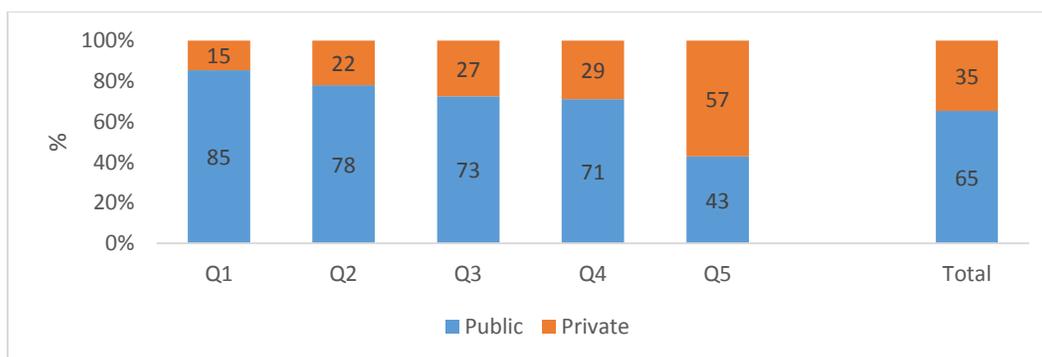
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Health Module)

While IGSS has much lower coverage than the MOH, its real per capita spending was almost five times the MOH per capita spending from 2007-2013. Although MOH per capita spending increased by 20% from 2007 to 2013 compared to 17% for IGSS during the same period, IGSS per capita spending was consistently far higher than that of the MOH (Figure 71). The NHA 2013 indicates that the MOH real per capita spending was only 21% of IGSS real per capita spending in 2011 and 22% in 2013. IGSS covers only a fourth to a fifth of the population covered by the MOH.

Figure 71: MOH and IGSS per capita spending: 2007 to 2013 (real 2001 USD)
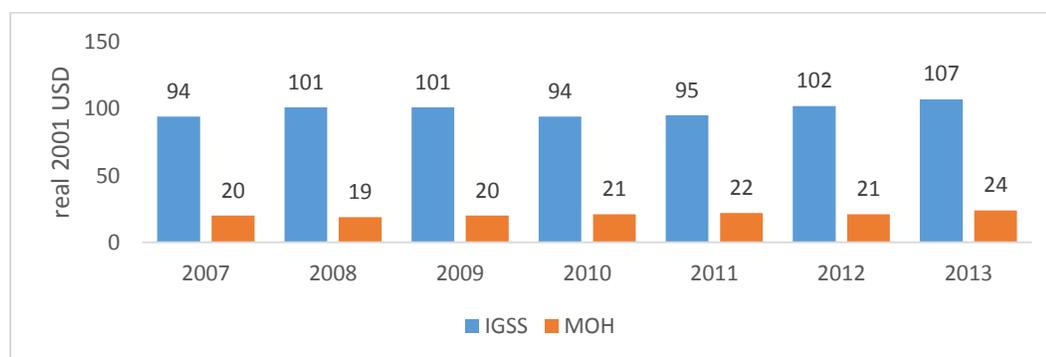
Source: World Bank SSEIR / ICEFI social public spending database

Salaries account for the largest share of public spending followed by medicines. The MOH faces difficulties in meeting its financial obligations, resulting in payment delays. In 2013, approximately 40% of total public spending on health was for salaries and 25% was for medicines (NHA2015). The Ministry of Health spent 56% of its total budget on personnel (salaries and benefits) and 13% on medicines. In 2014, the MOH allocated a larger share of its budget for personnel (60%) with no change in the budget share for medicines (MOH 2015). The increased budget share for personnel was because MOH signed a Collective Pact with unions in 2013 which included (a) conversion of almost 20,000 contractual positions to permanent positions, and (b) increases in benefits and per diems. The estimated additional cost of the collective Pact Agreement

is about Q1.35 million per year. However, the MOH's budgets for 2014 and 2015 increased by significantly less. As a result, the MOH has been unable to fulfill its financial commitments to health staff, and payment delays of 3-6 months have been reported.[44] Funding delays have also resulted in shortages of medicines in several facilities.

Hospitals accounted for the largest share of public spending for health programs from 2007 to 2013. Public spending on primary care/ambulatory services increased and the public spending share for public health services decreased. The share of public spending allocated to hospitals increased from 44.6% in 2007 to 45.3% in 2013. This is lower than both the CA average of approximately 48%[45] and the average for middle income countries of 52.5%.[46] There are frequent reports of hospital shortages of drugs and medical supplies, partly the result of insufficient funds allocated to hospitals and partly due to mismanagement of resources – the latter will be discussed in the following sections. The "unclassified" spending share decreased by almost 3 percentage points, and the share spent on ambulatory care increased almost four percentage points, which could be because of the emphasis on maternal and child care especially after 2012 when the Zero Hunger Program – one of the Government's flagship programs – was launched. The share of spending on public health services decreased by 1 percent from 22.4 to 21.5%. These expenditure share patterns (Figure 72) are supported by the NHA 2015 data which show public spending on hospitals increasing from 41.5% in 2007 to 42.2% in 2013 and the share of spending on public health decreasing, although the NHA reports much smaller public health spending shares: 5.4% in 2007 and 3.8% in 2013.

Figure 72: Major health programs: public spending shares 2007 and 2013 (%)
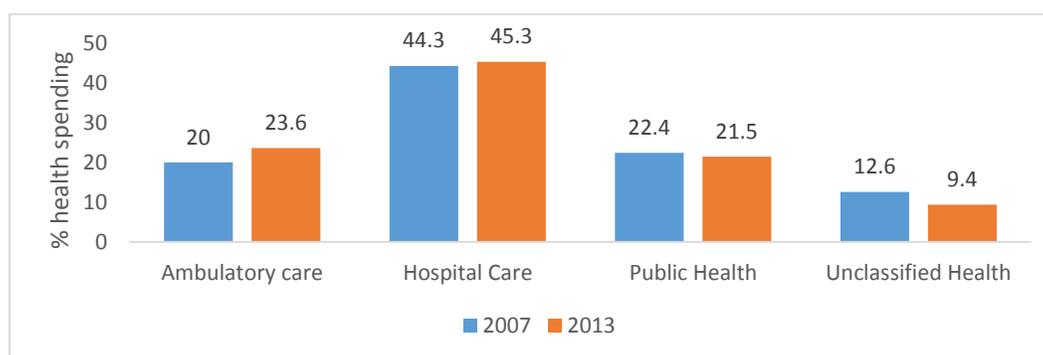
Source: World Bank SSEIR / ICEFI social public spending database

There is a consensus that the Government's health sector budget should increase, and that efficiency of public spending on health should improve. Applying the Public Social Spending Data Envelopment Analysis (DEA) presented earlier in this report solely to the health sector

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[44] WB team meetings with MOH staff in June 2015, and Estrada (2015)
[45] World Bank SSEIR / ICEFI social public spending database.
[46] Clements et al. 2010.

suggests that, relative to other countries in the LAC region, Guatemala could improve its child mortality, chronic malnutrition, and child measles immunization coverage outcomes by 14% with the same amount of spending (Figure 73).

Figure 73: Production possibility frontier (data envelopment analysis) for health public spending only – Guatemala (GTM) relative to other countries in the LAC region, 2010
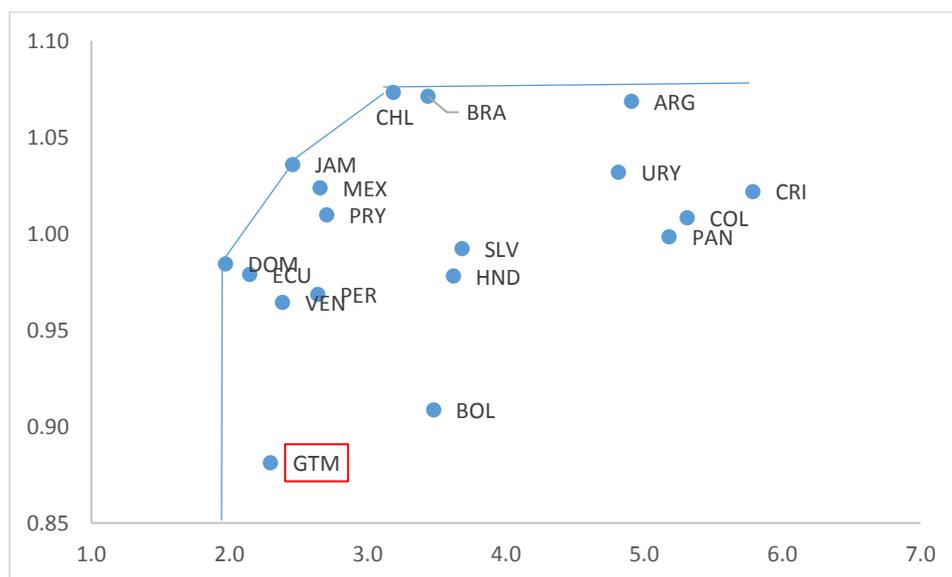
Source: SSEIR team analysis of WDI data.

Lack of coordination among key institutions and across levels of care, insufficient results-oriented planning and budgeting, and weak enforcement of accountability mechanisms have contributed to the inefficient use of resources and sub-optimal results. At the national level, various ministries and other institutions tend to work in and target the same areas with limited coordination, resulting in duplication of efforts and wasted resources. Within the health sector itself, separate fragmented health service delivery sub-systems managed by the MOH, IGSS and the Military and Police exist. This limits the ability of the sector to benefit from lower prices through economies of scale in procurement of medicines and other medical inputs. Moreover, insufficient coordination among the three levels of care, particularly the weak system of referrals and counter-referrals, results in hospitals providing care to patients who could be handled at the first or secondary levels of care. Public financial resources in Guatemala have been allocated mainly using historical budgeting, with slight increases for inflation. Reporting mechanisms tend to focus more on inputs and costs, rather than outputs and results. Finally, weak enforcement of accountability mechanisms in the health sector contribute to the misuse of already limited sector resources. There are frequent reports of inappropriate use of funds, questionable contract awards, and leakages. Government efforts to address these issues are discussed in the institutional section.

V.2 Performance of Health Indicators

Despite service delivery challenges resulting from budget limitations and staffing shortages, Guatemala has improved its health outcomes. Life expectancy increased from 62 years in 1990 to 72 years in 2013. The under-five mortality rate declined from 81 per 1,000 live births in 1990 to 31 in 2013 (Figure 74), and infant mortality rates decreased from 60 to 26 per 1,000 live births.[47] During the same period, TB incidence decreased from 75 in 1990 to 60 per 100,000 in 2013. Guatemala also reached its MDG goal for reducing underweight prevalence (Figure 75). Anemia among women in the 15-49 year age group - which increases risks during child birth - decreased from 22.1% in 2002 to 10.6% in 2014/15. Anemia in children under five decreased from 40% in 2002 to 25% in 2014.[48]

Figure 74: Under–5 mortality/1,000
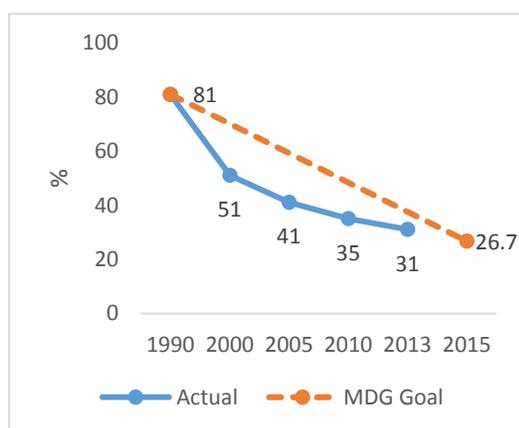
Source: WDI

Figure 75: Underweight children age 5
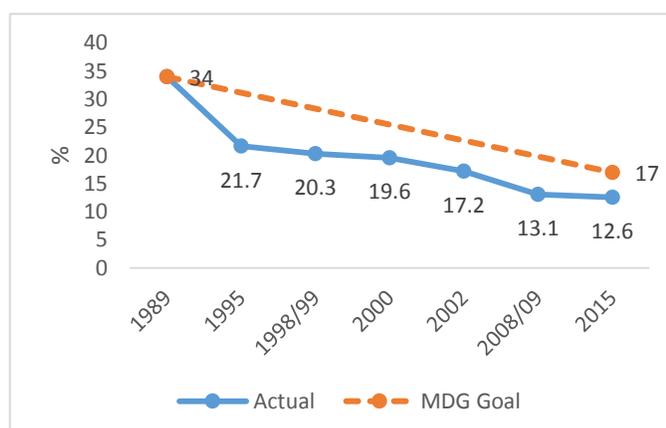
Source: WDI

Significant challenges remain, however, with regard to reducing maternal mortality, and especially childhood chronic malnutrition which presents a serious development issue. Guatemala's maternal mortality rate (MMR) declined to 93 per 100,000 live births in 2014, but is still far from the MDG goal of 51 (Figure 76).[49] It remains among the highest in the LAC region which averaged 73 per 100,000 live births in 2014. Similarly, although chronic

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[47] In 2013, Guatemala's life expectancy was lower than the LAC average of 74.7 years and its under-five mortality and infant mortality rates were higher than the LAC averages of 18 per 1,000 live births and 16 per 1000 live births, respectively (WDI 2015).

[48] National Maternal-Infant Health and Nutrition Survey 2014/15, and National Maternal and Child Health and Nutrition Survey (ENSMI) 2008/09.

[49] The 2014/15 National Maternal-Infant Health and Nutrition Survey also noted that 20 percent of the women aged 15 to 19 years interviewed already had children or were pregnant. The percentage of adolescents who were pregnant or already had a child/children was higher in rural areas (24 percent) than urban areas (16 percent).

malnutrition in young children decreased from 55% in 1995 to 46.5% in 2014/15, it remains one of the highest in the Latin America and Caribbean (LAC) region and in the world, surpassing stunting rates even of countries with significantly lower per capita incomes such as Bangladesh, Ethiopia, and Haiti (Figure 77). Anemia also is high among young children – one out of four young Guatemalan children is anemic – with serious implications for cognitive development. Evidence indicates that catch-up growth is difficult after the age of two because the damage to physical growth and brain development can be extensive and largely irreversible.[50]

Figure 76: Maternal mortality, 100,000
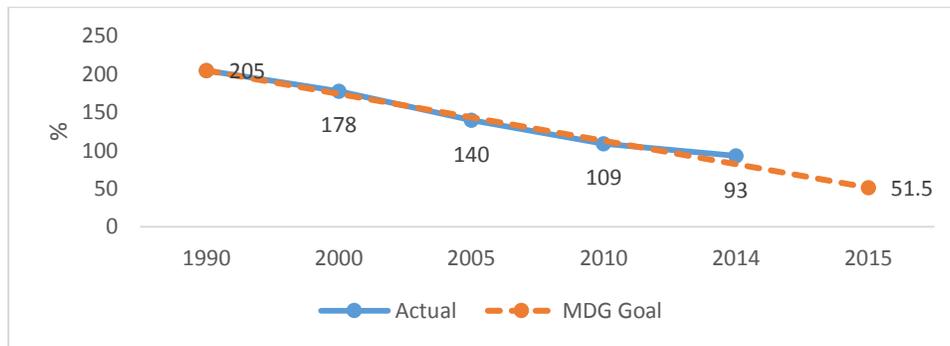
Source: WDI

Figure 77: Percentage of stunting by GNI (PPP current 2012)
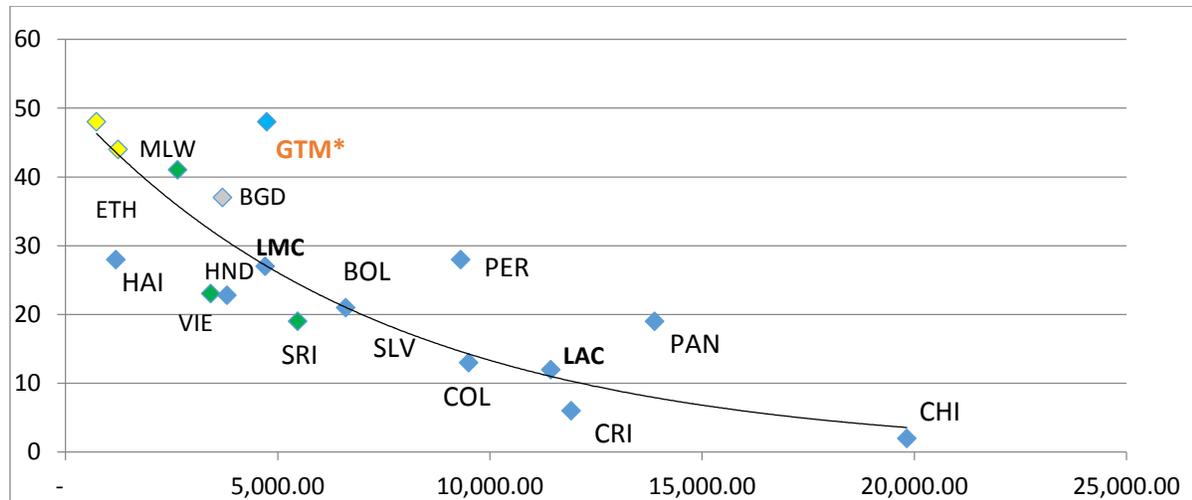
Sources: WDI 2014 and ENDESA 2011/12 for Honduras/HND; *Guatemala's (GTM) stunting prevalence decreased to 46.5% in 2014/15 based on ENSMI 2014/15.

Guatemala's epidemiological profile is changing, with NCDs accounting for a higher burden of death and disability. Although lower respiratory infections, diarrheal diseases, preterm birth

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[50] Shrimpton, R. C. et al. 2001. "The Worldwide Timing of Growth Faltering: Implications for Nutritional Interventions." Pediatrics 107.

complications, and iron deficiency anemia are among the ten leading causes of disability adjusted life years (DALYs) in Guatemala, diabetes, ischemic heart disease and cirrhosis had some of the biggest increases in DALYs[51] between 1990 and 2010.[52] NCDs cause as many as three out of every five deaths in the country and about one in every two DALYs lost.[53]

Inequalities in health outcomes and access to health services also persist. Indigenous women account for 73% of all maternal deaths in Guatemala, and are twice as likely to deliver a baby without the assistance of a doctor as nonindigenous women. Almost 84% of urban women have skilled assistance for deliveries compared to only 55% of rural women.[54] Sixty-one percent of indigenous children are stunted compared to 34.5% of nonindigenous children. In addition, use of preventive consultations is higher among rich than poor people. Disparities also exist in access to health service providers, with the rich being more likely to use IGSS facilities and private clinics (Figure 78).

Figure 78: Concentration Index for use of health facilities in Guatemala, 2011
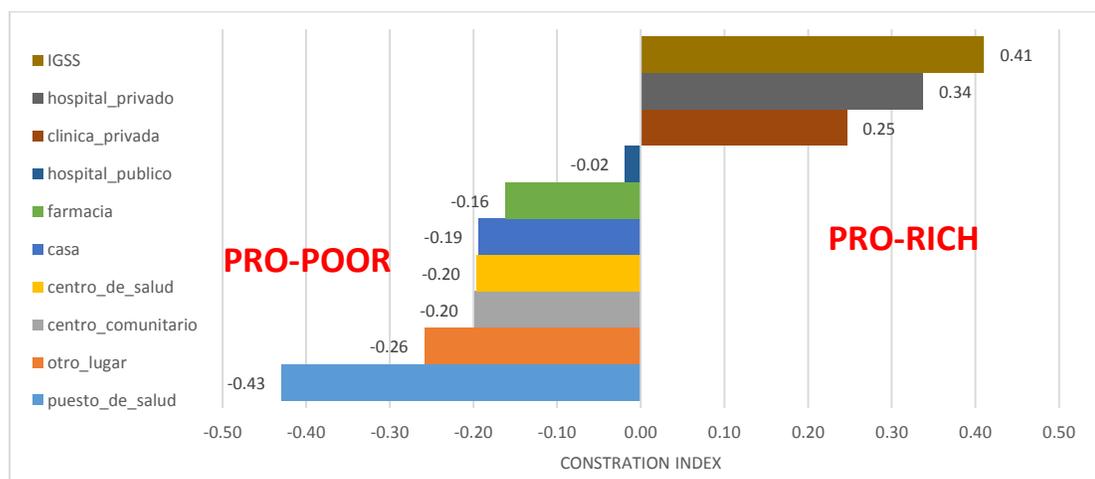
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Health Module)

Of those who reported that they were sick, significantly fewer poor people than rich sought care when ill. Only 36% of people who reported being ill sought care, this was 33% in the lowest income quintile compared to 61% in the highest income quintile. Similar to other countries, a larger percentage of the poorest quintile use public facilities (28%) than private facilities (5%).

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[51] Interpersonal violence was also among the factors that accounted for the largest increases in DALYs
[52] Institute for Health Metrics and Evaluation, University of Washington; and World Bank 2013. The global Burden of Disease: Generating Evidence, Guiding Policy.
[53] WHO 2008 and 2011 cited in WB Guatemala: NCD: at a Glance. Draft. 2011.
[54] ENSMI 2014–2015.

However, the percentage of the poorest who use public facilities in Guatemala is much lower than in three other countries in CA (Figure 79).

Figure 79: Percentage of sick people who used public or private facilities or did not consult
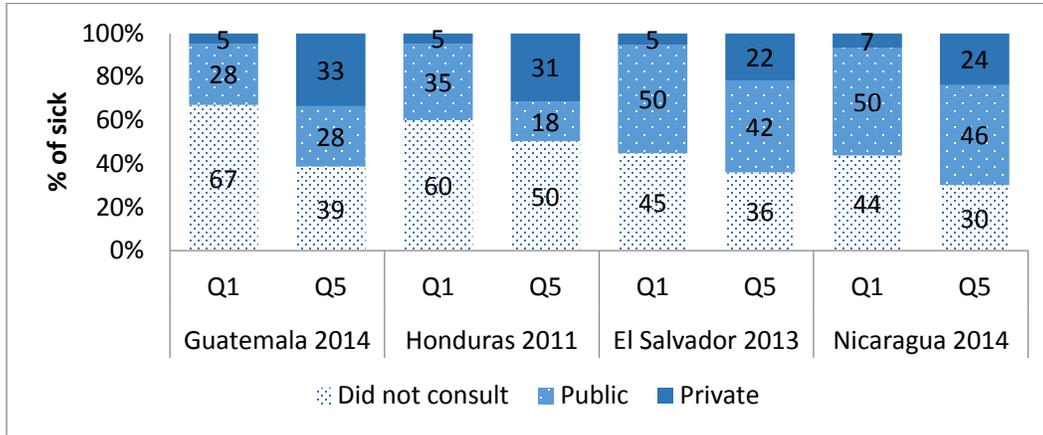
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Health Module).

Lack of funds and minor illness are the major reasons for not seeking care among the poorest quintile and rural residents. Figure 80 shows that lack of money and minor illness were the main reasons for not seeking care cited by the poorest quintile (40% each) and rural dwellers (39% each). On the other hand, minor illness was the major reason for not seeking care for the highest income quintile (58%), both indigenous (42%) and non-indigenous peoples (45%), and urban residents (50%).

Figure 80: Main reasons for not seeking care, 2014 (%)
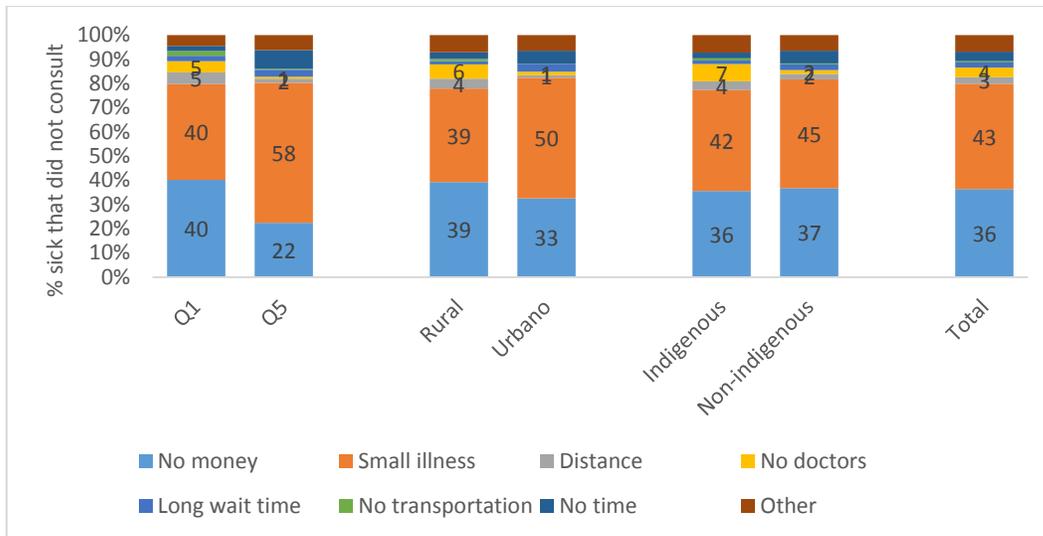
World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Health Module).

V.3 Institutional Arrangements

In addition to the three main government health providers, Guatemala has a large private sector. Figure 81 shows the institutions involved in the provision and financing of health services in Guatemala. In 2014, the public sector operated 1,612 health facilities of which 1,531 were under the Ministry of Public Health and Social Assistance (MOH) and 81 were under the Guatemalan Social Security Institute (IGSS). IGSS also contracted private health care services to attend to its affiliates and their beneficiaries. While no recent data are available for the private sector, in 2012, the MOH estimated that there were 6,963 private for-profit health facilities (MOH 2012b).

Figure 81: Institutional overview: Health sector service provision and financing in Guatemala
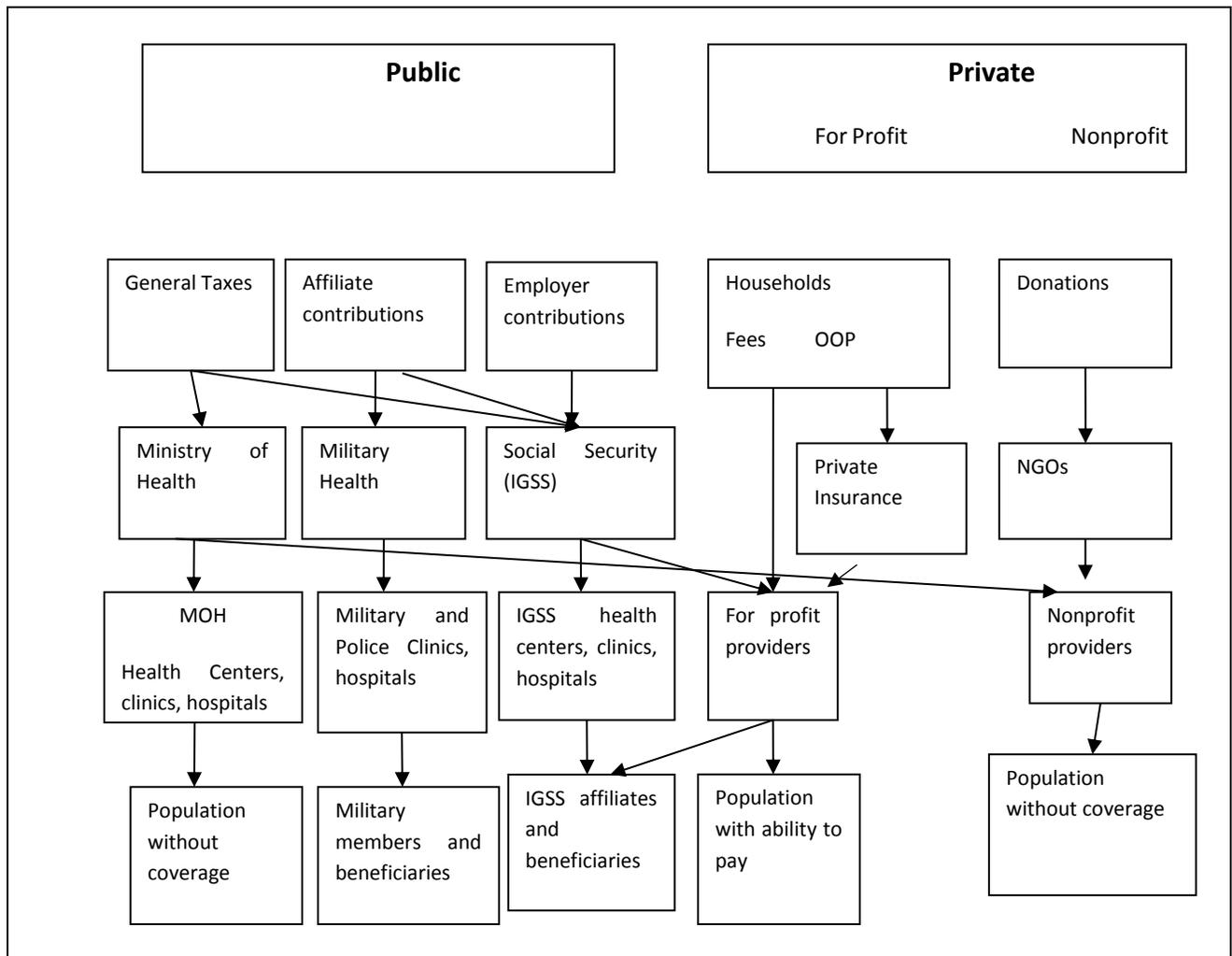
Note: OOP = out-of-pocket.
Source: Peña (2012) adapted from Becerill-Montekio and López-Dávila 2011.

There is a general consensus that the health system is fragmented and that public and private entities tend to operate in an uncoordinated manner, partly as a result of lack of systematic sector oversight by the National Health Council. Coordination across types of providers has been limited, even though the National Health Council (NHC), which is headed by the Minister of Health and includes public and private institutions,[55] is supposed to play a coordinating role in sector activities. Established in 1997, the NCH did not meet regularly until January 2014. Since then it has met more systematically to discuss ministerial initiatives and review certain programs and documents. The agenda and conclusions of NCH meetings are not available to the public.

Resource constraints, and a lack of consistent, systematic procedures, limit the extent to which the MOH can effectively coordinate the sector and perform its stewardship function. Existing health sector norms and the regulatory framework comprising the Constitution, Health Code, and MOH Organic Law, are considered generally adequate to facilitate sector governance. For example, the law requires IGSS to coordinate closely with the MOH and the private sector and to abide by MOH rules and norms. However, the MOH's resources and institutional capacity to coordinate the sector and to systematically monitor compliance are limited, and the MOH exercises limited authority over other public sector entities providing care (IGSS, DMH and NPH). With regards to the private sector, given its capacity and resource constraints, the MOH has focused mainly on issuing operating licenses. As a result, aside from public-private contracting arrangements, public and private health providers are generally not coordinated, and tend to operate in their own environment and to serve a socio-economically distinct segment of the population. There were contracting arrangements between the private sector (NGOs) and the MOH under the Extension of Coverage Program (PEC) from 1997 to 2014 for NGO mobile teams to provide basic essential health and nutrition services to areas without a MOH facility. The public sector – especially IGSS – also purchases advanced diagnostic services from the for-profit sector.

Weak coordination also exists among the three levels of care under the MOH although there are some recent promising efforts to address this. In order to improve the coordination among primary, secondary and tertiary levels of care and also to minimize congestion in hospitals, the MOH initiated a pilot in Guatemala City in 2013. The pilot implemented an integrated service delivery system that strengthened the capacity of health centers with equipment and a rotation program in which resident physicians work in the centers. Based on the favorable results reported in 2014 -- increased medical care provided in health centers and a 20% decline on average in external consultations in the two reference hospitals -- the MOH expanded the system into two other departments (San Marcos and Heuheutenango). In 2015, the MOH decided to adopt a more systematic approach toward expanding implementation of micro-networks, using a common

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[55] The National Health Council includes the Ministry of Health, IGSS, the National Association of Municipalities, the Association of Institutions for Development that provide services to the population, the Coordinator of Commercial Industrial and Financial Associations (CACIF), Assembly of Presidents of Professional Colleges, University of San Carolos, Private universities, and the Ministry of Education.

framework for situation analysis of service delivery gaps, and an implementation and monitoring and evaluation plan that could be adopted by each area. The MOH is currently (2016) piloting this systematized approach in three departments (Quiche, Solola, and Totonicapan).

There has been mixed progress in implementing the MOH 2014-19 strategy for moving toward universal health coverage with the MOH as health sector steward. The MOH's 2014-19 strategy has 7 pillars: (i) strengthening the three levels of care and integrating the service delivery network; (ii) reforming the health sector regulatory framework; (iii) training, development of human resources, and research; (iv) governance; (v) regionalizing technical and financial management; (vi) strengthening access to safe water and sanitation; and (vii) quality assurance. Progress in implementing the strategy has been mixed. On one hand, various training and capacity building of staff has taken place to strengthen service delivery and monitoring (for example, all MOH staff were trained on the correct use of the information system in 2014); and implementation of integrated service networks has expanded from Guatemala City to selected areas in four other departments: Sololá, Huehuetenango, Quiche, San Marcos. Part of establishing these networks includes reviewing the service delivery gaps in the areas with a view to addressing them progressively. To improve the quality of services, the MOH also established a Quality Unit. The Unit was absorbed recently by the Logistics Unit which has been tasked with creating an Information and Logistics Administration Module that needs to be integrated with the Health Management Information System (SIGSA). The MOH also has implemented results-based budgeting (RBB), starting with activities related to maternal and child health and nutrition, based on its agreement with the MOF under the Zero Hunger Program. The MOH had planned to expand RBB to all Health District municipalities and hospitals based on cost centers by 2015 but was unable to achieve this goal. Some work has advanced in the area of cost centers, and improvements have been made on information systems and the reporting of results related to the MOH-MOF agreements, but progress has been less than planned (as discussed below).

Efforts to improve the results orientation of resource allocation within the MOH are promising but continue to be hindered by funding delays and constrained institutional capacity. Until 2012, public financial resources were distributed mainly based on historical budgeting, with a slight increase for inflation. In the health sector in particular, regional allocations were based on staffing, number of beds, and number of health establishments, unintentionally penalizing underserved regions. In 2012, the MOH was the first ministry to agree to sign a results-based budgeting (RBB) agreement with the MOF. The MOH-MOF RBB agreement was focused on improving maternal and child health and nutrition, prioritizing the first 1000 days of life and the 166 municipalities with the lowest nutritional status. The RBB approach is seen as an important step toward enhancing the results-orientation of planning and budgeting, and improving accountability. In practice, however, results have been mixed. Some indicators have improved: for example, chronic malnutrition decreased from 60.1% in 2012 to 58.4% in 2013 and underweight decreased from 17.4% in 2012 to 16.4% in 2013 for children under five; but chronic malnutrition increased in children under 1 year old (from 32.2% to 33.7 for children aged 3 to 5

months, and from 39% to 43.4% for children aged 6 to 11 months).[56] Several targets have not been met by a large margin (for example, the MOH's 2015 report notes that only 38% of children younger than 1 year had all the vaccinations recommended for their age, and only 31% of pregnant women received timely prenatal care as of September 2014[57]). Although budgets for child and maternal health and nutrition increased 41.6% in 2013 and remained unchanged in 2014, delays of several months in the release of funds have made it challenging to implement timely interventions and hold health sector personnel accountable for results. Other factors that likely contributed to the mixed results are: the cancellation of the PEC without an immediate service delivery alternative; shortages of medicines and other key inputs; issues with the quality of counseling by health staff in health posts and community centers;[58] and institutional capacity constraints at central and local levels. The latest review of the Zero Hunger Program also indicates that too many areas (municipalities), institutions, and interventions (at least 100) were involved. The review recommends focusing on selected areas, key institutions, and a much smaller set of interventions that have proven to be cost-effective in delivering nutrition and maternal and child health results.[59]

Inadequate internal control systems and weak enforcement of accountability mechanisms in the health sector have also resulted in the misuse of sector resources. Reports of inappropriate use of funds, questionable contract awards and leakages in the sector are frequent. For example, in 2014, a former Minister of Health was accused of approving 17 of 21 refurbishment/ rehabilitation contracts worth Q12.4 million (USD1.6 million) during the State of Emergency that did not meet minimum legal requirements.[60,61] In the same year, there were reports of drug losses worth more than Q170 million (USD21.9 million) in the Health Area of Santa Cruz in the Department of Quiche and Q1.5 million (USD193,700) in the Roosevelt Hospital.[62] In early 2015, investigations found at least 18 ghost positions in the MOH with monthly salaries of Q18,000-20,000, mostly for legal advisers. Since August 2014, at least 22 workers have been reported to have stolen medicines, and there have been alleged "small thefts" of medical supplies and surgical inputs in various hospitals throughout country.[63] The recent incarceration of the former IGSS Board for awarding a contract worth Q166 million (USD21.4 million) to a firm that provided equipment and medicines that did not meet technical requirements is a positive step in enforcing accountability in the sector, although there are reported cases where justice has not been enforced.

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[56] ICEFI-Save the Children based on Hambre Cero Evaluation by SESAN-IFPRI.
[57] MOH. Marzo 2015. Informe Plan del Pacto Hambre Cero 2014.
[58] Alianza Por Nutricion. 2013.
[59]IFPRI-SESAN cited in SESAN January 8, 2016 presentation.
[60] Diario La Hora. Nov. 2, 2014. Ministerio de Salud Adeuda Q628M a empleados y Q311M a farmacéuticas.
[61] Diario La Hora. May 27 2015. Detectan Anomalías en Proyecto de Ex Ministro que suman Q12.4M
[62] Prensa Libre. Jan. 2 2014. Falta de Recursos en Salud Afecta a Población.
[63] DeGuate.com. May 27, 2015. Autoridades evaluaran desempeño de directores de hospitales del MSPAS

Table 3: Trends in MOH facility expansion: 1990-2013

Facility	1990	1995	2000	2006	2010	2013	Change since 1990 (%)	Change since 2010 (%)
Health Posts	803	852	867	966	1,076	1,158	44.2	7.6
Health Centers B	188	221	243	259	267	277	47.3	3.7
Health Center A (has beds for maternal-child health services)	32	33	33	40	43	52	62.5	20.9
Hospitals	35	36	43	43	43	44	25.7	2.3
Total	1,058	1,147	1,186	1,308	1,429	1,531	44.7	7.1

Source: MOH. NHA. 2015; *MOH's secondary level facilities also include 7 Integrated Maternal and Child Health Centers, 8 Maternity Clinics, 2 Minimum Emergency Centers; and 20 Centers of Ambulatory Care but data were insufficient to include them in the trend analysis.

Although the number of MOH health facilities has increased, significant coverage gaps persist which the Government intends to fill progressively, partly through its new primary health care strategy. The number of MOH facilities increased by almost 45% since 1990 and by 7% since 2006 (Table 3).[64] However, by MOH facility to population standards, the number of health posts in 2013 only covered a fifth of Guatemala's population (put another way, they would have been sufficient for the country's 1950 population). Similarly, in 2013, there were enough secondary level care health centers (A and B) to cover only 25% of the population. Including the other secondary level facilities (7 Integrated Maternal Child Health Centers (CAIMI) which offer surgical services, 20 Centers of Ambulatory Care, 8 Maternity Clinics, and 2 Minimum Urgent Care Centers) results in a marginal increase in the secondary level coverage rate. Until 2014, approximately 4.5 million Guatemalans living in poor and remote areas only had access to monthly health and nutrition services provided by mobile teams of NGOs contracted under the MOH's Coverage Extension Program (PEC). The MOH discontinued the contracts of several NGOs in mid-2014, leaving an estimated 2.3 million Guatemalans without access to basic services, and then eliminated the PEC without a transition plan in February 2015, leaving an estimated 4.5 million people without any access to primary care. In April 2015 the MOH presented its new primary health care strategy that aims to provide a more holistic package of services using a life cycle approach, rather than being primarily maternal and child health focused. The MOH has prioritized implementation of these services by health institutional teams (*Equipos Institucionales en Salud* or EIS) of MOH staff in the areas previously covered by NGO mobile teams contracted by the

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[64] Ministry of Health. 2015

MOH under the Expansion of Coverage Program (PEC). As of end June 2015, the estimated coverage of this new approach was 7.9 million people or 46.3% of the population.[65] The latest available estimates indicate that, compared to other countries in Central America, Guatemala has the largest coverage gap for basic health services (almost 50%), followed by Honduras (18%). In order to address its service gap issue, in 2016 the MOH prepared a strategy to strengthen primary health care which it recently presented to the President for his support.

The quality of health services in the public sector also remains a concern. The overall physical condition of health facilities, lack of qualified personnel, medicines, and other inputs are often cited as major issues in public sector health facilities in Guatemala.[66] Although user surveys show that satisfaction rates with public hospitals in Guatemala increased from 40% in 2007 to 46% in 2011, Guatemala has the lowest satisfaction rate in Central America (Figure 82). It is the only country in CA where most people surveyed were not satisfied with the way public hospitals work. Significant shortages of medicines and surgical inputs in major hospitals especially the Roosevelt and San Juan de Dios –both in Guatemala City– have been reported frequently. In June 2015, for example, the country's Human Rights Prosecutor alerted the Government that nine public hospitals[67] faced the risk of temporary closure because of insufficient medicines, financial resources and staff. A large percentage of hospitals report overcrowding. In particular, 6 hospitals (Sayaxche, Coban, Salama, Puerto Barrios Amistad, Nebaj, and Salud Mental) had bed occupancy rates (BORs) above 100% in 2014, and 10 hospitals had BORs between 90 -100%. [68]

Figure 82: Would you say you are satisfied with the way public hospitals work?
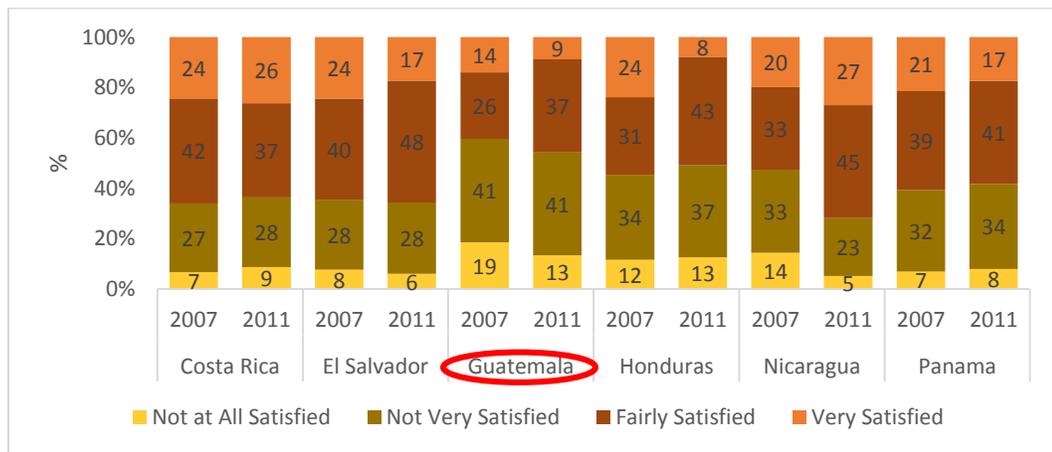
Source: World Bank SSEIR team's, authors' calculations using Latinobarometro

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[65] MOH. Primary Care Unit Report. June 2015.
[66] MOH 2012; Prensa Libre. January 2014. Falta de Recursos en Salud Afecta a Población.
[67] Hospitals mentioned were Jutiapa, quiche, Zacapa, Huehuetenango, Coatepeque, Cuilapa, San Juan de Dios, National Institute of Cancer and the National Unit of Care for Chronic Renal Disease. Cited in Prensa Libre. June 9 2015.
[68] MSPAS. 2014

Insufficient health personnel is a critical factor affecting the quality of health services. Guatemala has the lowest health personnel to population ratio in CA: 12.5 per 10,000 inhabitants (Figure 83), half the WHO guideline. Guatemala's urban health personnel to population ratio is almost ten times the rural ratio: 25.7 compared to only 2.96 per 10,000 inhabitants.

Figure 83: Health personnel by countries ratio per 10,000 people by CA countries
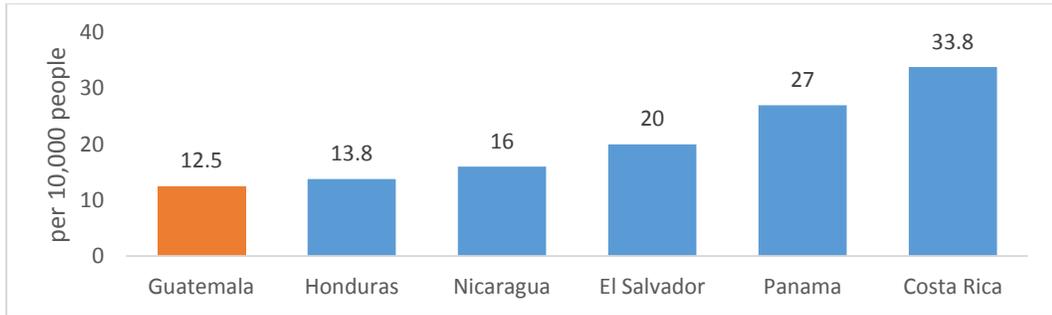
Source: CA HR Observatory. Note: The WHO standard is 25 per 10,000 people.

A disproportionate number of public health personnel work in Guatemala City compared to other parts of the country. Guatemala City has a disproportionate share of health personnel (41%, compared to its 29% share of the country's population); other departments have significantly fewer staff (Figure 84). In particular, Guatemala City has 55% of physicians, 52% of professional nurses, and 68% of dentists. Only for auxiliary nurses does Guatemala City's share roughly equal its population share (Figure 85).

Figure 84: Distribution of health personnel by health department in Guatemala (2014)
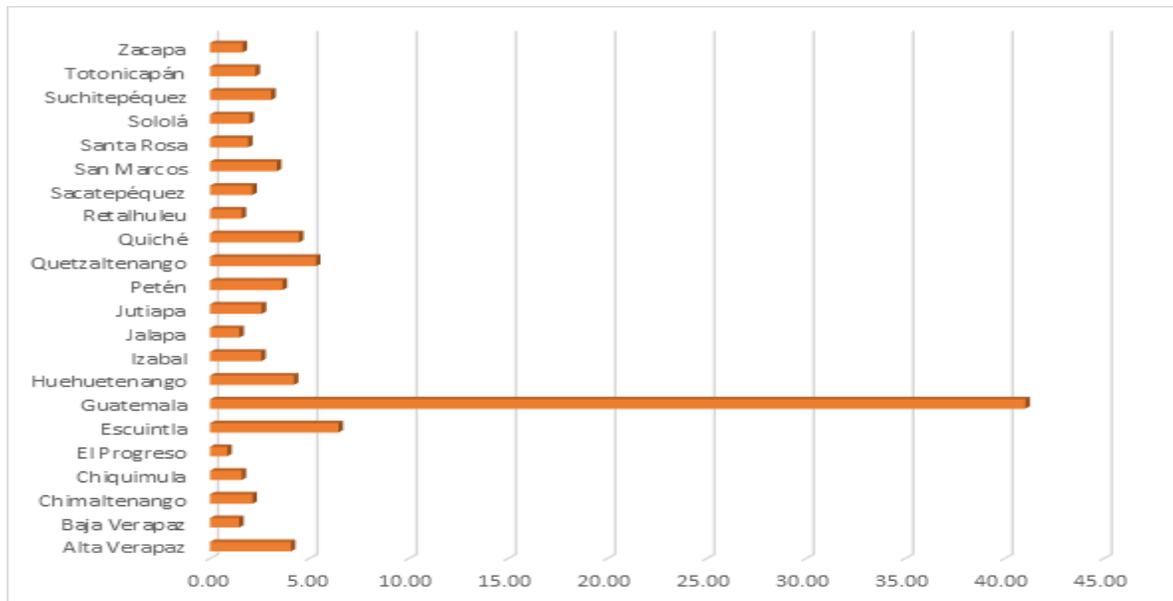
Source: Human Resource Observatory: Guatemala

Figure 85: Share of key public sector health personnel relative to population: Guatemala City and rest of country, 2014 (%)
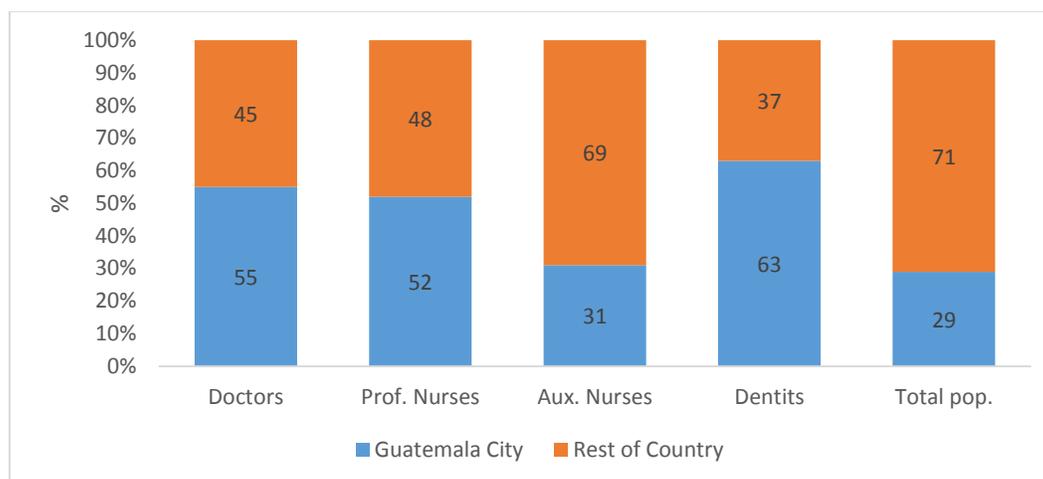
Source: Human Resource Observatory: Guatemala; *includes MoH and IGSS

In order to address the human resource gaps in rural areas, the MOH is taking steps to recruit and train staff from those areas, and also to use telemedicine. There is one doctor and less than one professional nurse for every 1000 Guatemalans, and even lower ratios in most departments. Gender is also an issue: some women expressed embarrassment at the thought of being attended to by a male doctor.[69] The MOH has been hiring and training local women who speak the local language to become auxiliary nurses. It also established a National Policy in 2015 (Government Agreement 102-2015) for midwives that aims to recognize and disseminate their knowledge and improve their links with the health system as agents of change; and established a training program for midwives with two universities. The MOH is also piloting the use of telemedicine so that health workers can monitor vital signs of patients in rural and remote areas from a distance.

In order to attract and retain staff, the MOH has taken steps to improve job security, benefits, and per diems, although insufficient funds and delays in payments have made it difficult to implement the changes. The MOH signed a collective pact with unions in 2013 to convert approximately 20,000 contractual positions to permanent jobs and to increase benefits and per diems. This was considered a welcome move because almost 50% of health workers had temporary contracts, salary increases had been limited since 2009, and no incentives were offered to work in rural areas. However, the MOH budget for 2015 only increased by Q67 million compared to the additional Q1.345 million needed to honor its financial commitments to health personnel. As a result, health workers have reported delays in receiving their salaries.

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[69] WB. Guatemala Maternal-Child Health and Nutrition Project PAD and ENSMI

The MOH has also been taking actions to improve staff performance through personnel audits and monitoring systems. In 2015, the MOH undertook a technical audit of staff in departments to review whether their qualifications met their job requirements/terms of reference. This audit was also aimed at reducing the risk of politicized appointments. The MOH also has made progress in monitoring staff productivity through its Health Management Information System (SIGSA) which is now able to track the number of consultations provided by each health worker in health departments. All health facilities are required to enter information systematically and in 2015, facilities that did not comply received ministerial sanctions. The MOH is also working towards an integrated human resource information system (IHRIS). In 2015, the information for contractual staff was already on line and the next step is to integrate the information of permanent staff. As part of its health sector reform, the new Administration plans to undertake a detailed inventory of its health staff and update its human resource data base.

The MOH 2014-19 Strategy aims to improve human resource management including establishing a career path for health workers, which would need a budgeted operational plan. The MOH Human Resource Directorate issued a two page statement in 2013 mentioning general strategies and policies for managing the Ministry's human resources. The strategic framework has three principles: (a) develop the health workforce, (b) generate sustainable processes for this development, and (c) install an integrated human resource information system. Policies to implement the three pronged strategy aim to strengthen research, management, and development of the workforce. They also emphasize deconcentrating the management of human resources from the executive level to the Ministry and from the Ministry to institutions. These general statements and intentions are a useful blueprint that provides strategic direction for developing action plans with specific targets to be achieved within a given timeframe. Recently, the Ministry of Health, in collaboration with the Vice President's Office, also introduced a general framework for health sector reform which includes a plan to improve human resource management including preparing a career path for health workers. The next step would be to translate this into concrete strategies and operational plans with measurable and verifiable outcomes, timelines, and a budget.

Stock-outs also impact the quality of health care services provided by health facilities. In June 2015, the average availability of drugs was 87% for all 29 health directorates, with a range of 66% (Peten Sur Oriente) to 100% (Santa Rosa and Totonicapan).[70] Five health directorates had 75% or less of tracer medicines, another five had 81 to 82%. The average drug availability in MOH hospitals was 83%, ranging from 66% (San Juan De Dios) to 97% (Fray Rodrigo). Seven of 44 hospitals had drug stocks below 75%.

In principle, drug procurement in the public health sector is based on the state procurement law of 2009 which promotes centralized price negotiations to take advantage of economies of scale; in practice there is significant room for improvement. The legal basis for procuring

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[70] MSPAS: Gestión de Calidad en Salud, Logística de Medicamentos. The MOH uses a list of essential tracer medicines.

pharmaceuticals is well established in Guatemala. The method of open contracts is used, which allows hospitals and health areas to purchase from an approved list of drug suppliers previously selected by the Government. This system is meant to achieve lower prices from economies of scale via centralized price negotiations, while retaining the advantages of decentralized purchases. From 2004-2013, 4 firms accounted for contracts over USD38.5M; 10 firms received contracts from USD12.9M to USD38.5M; 77 smaller firms had contracts of lesser amounts.[71] In 2015, Guatecompras listed 82 providers for 239 contracts for medicines and hospital inputs for 1,633 products under the open contract scheme.[72] Implementation experience indicates several shortcomings in the procurement of medicines. For example, the law stipulates that the supplier must deliver the products within 20 days after signing the contract. However, suppliers rarely meet this deadline and receive a 20-day extension and, in the meantime, shortages occur. If the 20 day extension period expires and the medicines have not yet been delivered then the receiving health facility may request the Ministry of Finance's no-objection to purchase outside the open contract modality. However, the health facility usually purchases the same medicine at a higher price from the same supplier that did not deliver on time. Moreover there are no limits on the duration of contracts which have led to reduced competition and outdated negotiated prices. The lack of standardized bidding documents tends to result in incomplete and/or confusing specifications and limited coordination among the participating entities (MOH, IGSS and the Military and Police). The absence of a single list of medicines and pharmaceutical forms has led to partial pooling of procurement needs for medicines, so the public sector is not able to realize all the potential benefits of economies of scale.[73]

The MOH is taking steps to improve procurement and management of medicines and other medical inputs. The MOH established a Logistical Management Unit in 2015. This Unit is responsible for verifying the selection, estimation, procurement, storage and distribution of medicines, surgical inputs, and related supplies, for all implementation units (Health Areas, Hospitals, and specific programs). The MOH and IGSS are also coordinating with other countries[74] in Central America to jointly purchase anticonvulsants, cancer drugs, cardiovascular medicines, and contraceptives, based on a harmonized list at lower cost. The Government has also partially modified the Procurement Law. As part of its planned health sector reform, the new Administration intends to review and modify some procurement processes including establishing a reference price list for medicines and inputs to avoid overpricing. It also plans to consolidate and harmonize logistics-related processes between the MOH and IGSS.

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[71] Slowing, K. 2013 cited in Galindo 2013.
[72] Diario la Hora. June 27, 2015.
[73] World Bank. 2009. Contrato Abierto para Compra de Medicamentos en Guatemala: Características, Oportunidades, y Alternativas.
[74] MOH in Belize, MOH and IGSS in Guatemala, MOH and SS in El Salvador, MOH and IHSS in Honduras, MOH in Nicaragua, Social Security in Costa Rica, MOH and SS in Panama, MOH and NHI in Dominican Republic. Cited in G. Estrada 2015.

Health is one of three major priorities for the new Administration, which has developed major strategies that need to be supported by concrete operational plans and resources. Since the new Administration assumed office in January 2016, it has moved forward with preparing strategies to address chronic malnutrition, strengthen primary health care, and identify key areas for health sector reform. It launched a Strategy to Prevent Chronic Malnutrition 2016-2020 in March 2016, and then began consultations on draft strategies for strengthening primary health care and health sector reform. The Strategy to Prevent Chronic Malnutrition 2016-2020 relies on improving access to and quality of primary health care, as well as clean water and sanitation, and strategic communication to promote behavioral change. The Government is preparing the needed costed implementation plan, based on a series of consultations with key stakeholders. Implementation of this strategy and the MOH's primary health care strategy will require additional resources to address existing significant coverage and quality gaps. Inadequate funding has become an even more critical issue in the sector because the Government reduced the health sector budget by two percent (Q118 millions) from 2015 to 2016. As a result, identifying ways to reassign and/or generate more funds for health and nutrition needs to be one of the key areas of focus of the proposed health sector reforms. Another important area of focus would be to improve the efficiency of health spending by expanding the use of results-based budgeting in the sector. The Government plans to undertake an in-depth costing exercise at the primary and secondary levels of care to generate up-to-date information on the cost of providing services. It aims to eventually implement results-based capitation payments at the primary and secondary levels of care in order to improve health and nutrition outcomes and the efficiency of public spending on health.

VI. Performance and Challenges in Social Protection and Labor

VI.1   Recent Evolution of Social Protection and Labor Public Spending

Guatemala's Social Protection and Labor (SPL) spending has increased in real terms most years since 2007, and increased as a percentage of GDP between 2007 and 2010. Guatemala has all the key elements of an SPL system, including contributory programs (social security), non-contributory benefits directed to the most vulnerable groups, and labor market programs. However, coverage and resource allocation are sub-optimal, and the different SPL components are implemented to very different degrees. Overall, the country has slightly increased the amount of resources invested in SPL, in real terms and relative to the GDP, mostly on its social assistance components. SPL spending rose on average 7% per year in real terms from 6,412 million quetzals in 2007 to 9,928 million quetzals in 2014 (Figure 86). As a percentage of GDP, SPL spending rose from 2.5% in 2007 to a peak of 3.3% in 2010, and then stabilized at 3% (Figure 87).

Figure 86: Social protection spending in constant local currency 2007-2014 (million)
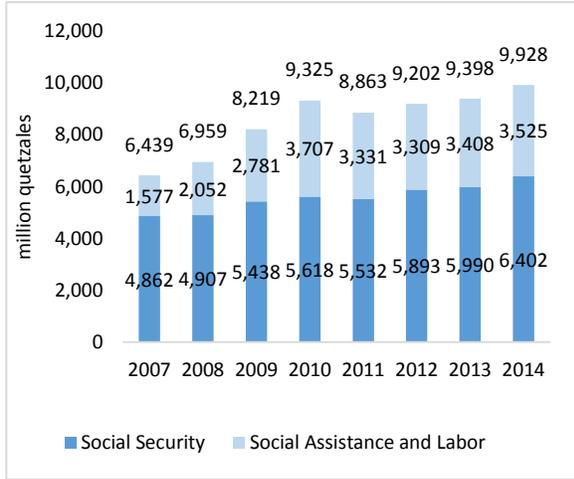
Figure 87: Social protection spending as a percent of GDP 2007-2014

Source: World Bank SSEIR / ICEFI social public spending database
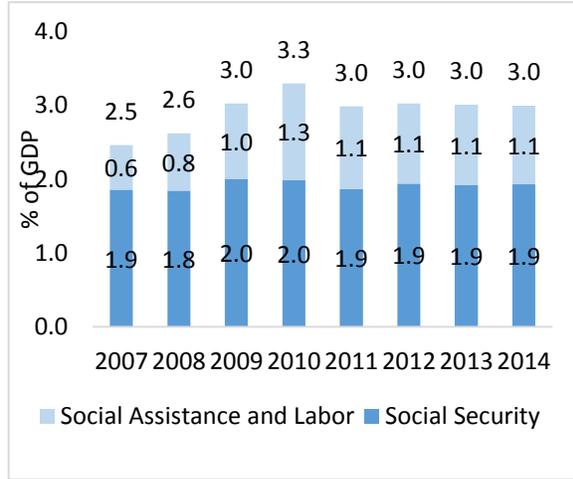
Source: World Bank SSEIR / ICEFI social public spending database

Guatemala's SPL allocation is the lowest in CA. Guatemala provides less fiscal resources to SPL as a share of GDP than most countries in CA and LAC. For instance, in 2014 Guatemala allocated less than half of what Honduras spent for SPL and about a third of Costa Rica's allocation relative to GDP (Figure 88). Social assistance spending as a percentage of GDP is below El Salvador, Panama, Honduras and Costa Rica, but higher than Nicaragua. Fiscal resources for social security are noticeably low (1.9% of GDP in 2014). Social assistance spending at 1.1% of GDP in 2014 is below the world average (1.6% of GDP, average for 2010-2014) and LAC regional average (1.3% of GDP).[75]

Figure 88: Social protection and security spending as percent of GDP by countries, 2014
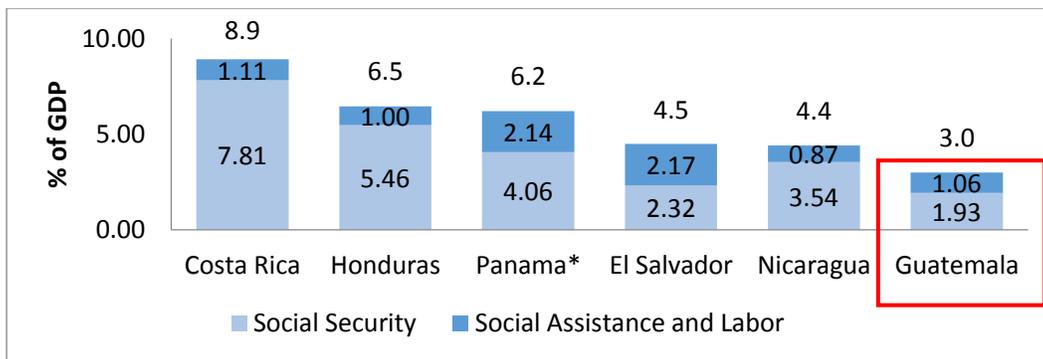
Source: World Bank SSEIR / ICEFI social public spending database

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[75] Source: World Bank ASPIRE Database.

Social security is fragmented, comprising three main public schemes plus a social pension system. Social security in Guatemala is financed in a pay-as-you-go (PAYG) regime, mainly implemented through the *Instituto Guatemalteco de Seguridad Social* (IGSS). In addition, there is a social pension administered by the Ministry of Labor (MINTRA), aimed at supporting the elderly living in poverty. The contributory system is very fragmented – there are currently 11 public pension schemes plus other private funds with very limited coverage. The two most important public schemes are: the disability, old age and survival plan (*Invalidez, vejez y supervivencia,* IVS) that requires as qualifying conditions being older than 62 years and having contributed at least 240 payments (valid for new affiliates entering the system since January 2011); and the sickness, maternity and work injury plan (*Enfermedad, maternidad y accidentes*) which includes as requisites having contributed at least 3 consecutive months in the 6 month period preceding the incapacity or accident. These two schemes are administered by the IGSS. A separate scheme for public workers, 'Passive sectors of the State' (*Clases Pasivas del Estado*), was mandated under decree 63-68 of 1988. Finally, social security for the military is provided through a special plan managed by the Military Social Security Institute (IPM). Spending on social security has remained at around 1.9% of GDP during the period 2007 to 2013. Guatemala's spending on social security is the lowest in CA.

Social assistance spending has increased in later years, mostly explained by the rise of subsidies. Rising SPL spending in recent years was mainly driven by the social assistance programs that almost doubled their share of GDP from 0.6% in 2007 to 1.1% in 2011, but then remained stable. Most of the increase in social assistance is explained by the level of subsidies. In contrast, the increase in cash transfers that took place between 2007 and 2010, mainly through the conditional cash transfer (CCT) program *Bono Seguro* (former *Mi Familia Progresa*), reverted back after 2010 (Figure 89). Labor Market services get few resources, partially due to the high levels of informality.

Figure 89: Social assistance spending as a percent of GDP 2007-2014 (%)
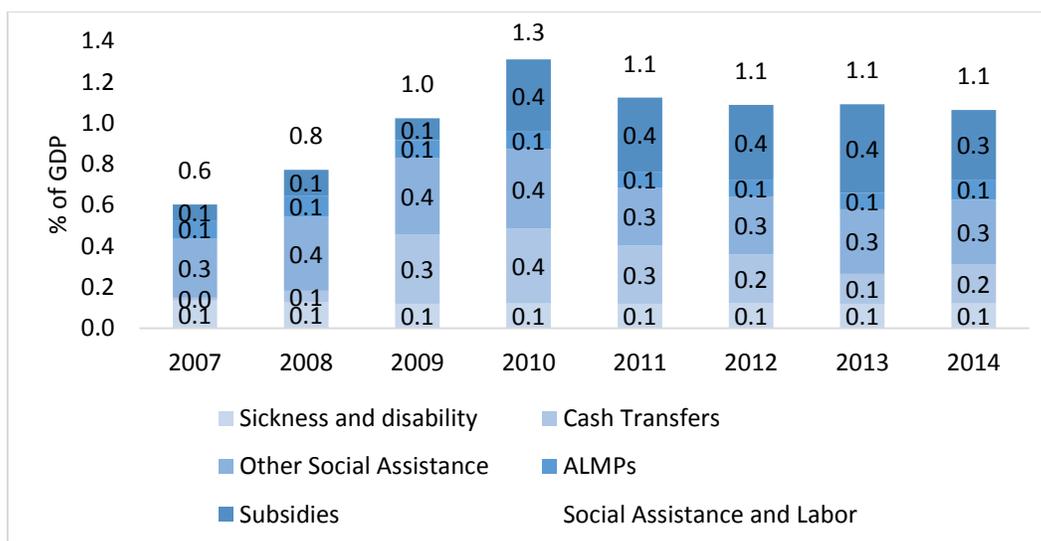
Source: World Bank SSEIR / ICEFI social public spending database

There is an important range of SPL interventions oriented to different groups of the population. As mentioned above, Guatemala has implemented the most important components of an SPL system. They reach a large number of beneficiaries and include social security schemes (contributory) for illness, accidents and maternity leave; old age pension; a social pension; active labor market programs including a National Training Institute – INTECAP (common in the CA region); and labor mediation services through employment services carried out by MINTRA (Table 4). A set of social assistance interventions works across the country to provide support to the most vulnerable, currently managed by the Ministry of Social Development (MIDES). These include a scholarship program called Beca Segura; a food assistance scheme Mi Bolsa Segura; the CCT program Mi Bono Seguro - previously named Mi Familia Progresa; and a program for the youth that provides recreational activities (*Jóvenes Protagonistas*). Subsidies are also an important SPL intervention, particularly in transport and electricity, and are implemented through MIDES and the National Electricity Institute (INDE).

Table 4: Main SPL programs, 2012

	Spending ('000s USD)	Beneficiaries	USD average per beneficiary
Social Insurance			
Enfermedad Maternidad y Accidentes	44,908		
Jubilaciones y/o Retiros	353,119		
Pensiones	135,108		
Prestac. Por Invalidez, Vejez Y Sobrevivencia	160,942	166,493	967
Atencion al Adulto Mayor (MINTRA)	58,630	108,664	540
Labor Market			
Creciendo Seguro		85,000	
Instituto Tecnico De Capacitacion Y Productividad -Intecap	30,071	277,464	108
Servicios De Capacitacion Y Formacion Del Trabajador (Trabajo)	188	2,024	93
Social Assistance			
Mi Beca Segura (MIDES)	969	9,109	106
Mi Bolsa Segura (MIDES)	13,460	196,341	69
Mi Bono Seguro - Bono Seguro de Salud	45,636	433,559	105
Mi Bono Seguro - Bono Seguro Escolar	58,529	588,400	99
Programa Jovenes Protagonistas		39,455	
General subsidies			
Aporte Al Subsidio De Energia Electrica (Energía y Minas)	10,913		
Subsidio al Transporte Urbano del Adulto Mayor (MIDES)	3,250		
Subsidio Tarifario (INDE)	147,448		

Source: World Bank ASPIRE database

Overall, SPL spending is much higher for the elderly than for youngsters or children. In 2012 the old age and survival plan (IVS) paid an average of USD 967 per capita and the social pension paid USD 540 per capita, far higher than per capita spending for the youth (INTECAP's average per capita was USD108) or for children (Bono Seguro's per capita for each scheme was around USD 100).

VI.2   Performance of Social Protection and Labor indicators

VI.2.1   Social Security

Beneficiaries of the main contributory scheme IVS have expanded moderately in recent years, but coverage remains limited due to high labor informality. Coverage of the main contributory scheme IVS rose from 144,857 beneficiaries in 2010 to 166,493 in 2013 (Figure 90), and the share of the elderly covered rose from 21.3% to 22.4%. Nevertheless, Guatemala's coverage of contributory social security remains one of the lowest in LAC. By 2010 it was the lowest in CA, and only performed better than Bolivia, Peru and Paraguay in LAC. It was far below the top performer Costa Rica whose contributory social security pillar reached almost 70% of its elderly.[76] More details are provided later on Guatemala's high labor informality that is a key reason for its low contributory rate.

Figure 90: IVS beneficiaries and percent of elderly covered, 2010-2013
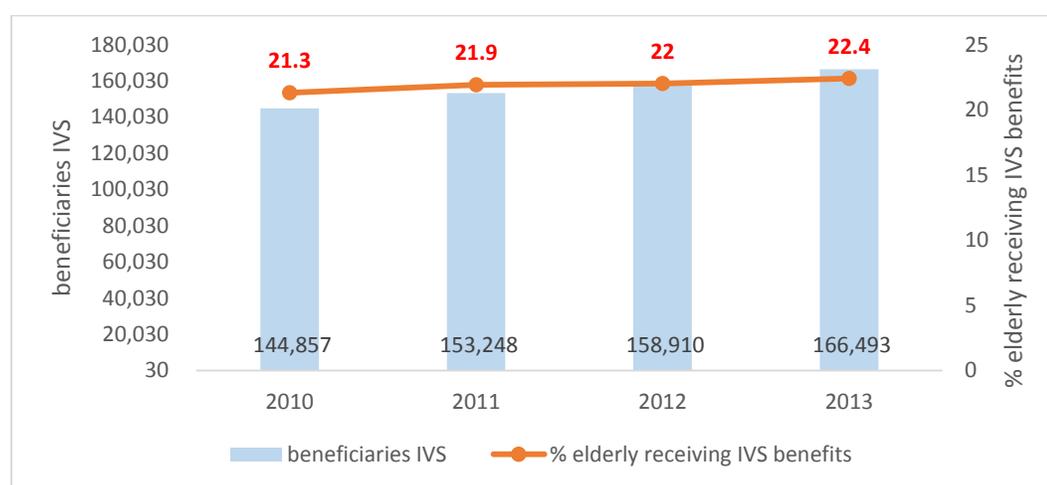
Source: Anuarios Instituto Guatemalteco de Seguridad Social, Censo de Poblacion INE

Payments through the contributory system are quite heterogeneous, and the Guatemalan Institute of Social Security (IGSS) is facing structural deficits. Eligibility criteria to access the benefits have recently been tightened and new affiliates entering after January 2011 are required to be at least 62 years old and to have contributed at least 240 regular payments to the system. Retirement benefits are calculated at 50% of base salary plus 0.5% for each 6 month period of contributions beyond the required minimum. Total benefits cannot exceed 80% of the base salary, earnings cannot be greater than Q 6,000 (or approximately USD 780). Since the new requirements do not apply to people who entered the system before January 2011, there is considerable heterogeneity in benefits which can range from Q 340 (approximately USD 44) – the minimum

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[76] OECD, Inter-American Development Bank, and World Bank (2014).)

monthly pension, including supplements – to Q 4,800 (USD 624) (permanent disability benefits have the same range). The IGSS has a structural deficit of around 0.8% of GDP each year. This is aggravated by the low number of people actually contributing to the system. Approximately 1 million workers make regular payments to the system, just 25% of the economically active population.

Equity remains an issue, but adequacy of benefits is fair especially for low incomes. Guatemala's percentage of low income families (people in the first quintile of poverty) contributing to the system was among the lowest in CA in 2014 (Figure 91). As in most of CA, the gap in the percent contributing between the poorest and richest income quintiles is large. At 75% gross pension replacement rates (GRR), adequacy of benefits for low earners ranks about the middle of LAC levels, but is among the highest in LAC for high earners (Figure 92), contributing to Guatemala's high inequity.

Figure 91: Contributions to social security as a percent of total employees by income quintiles and countries
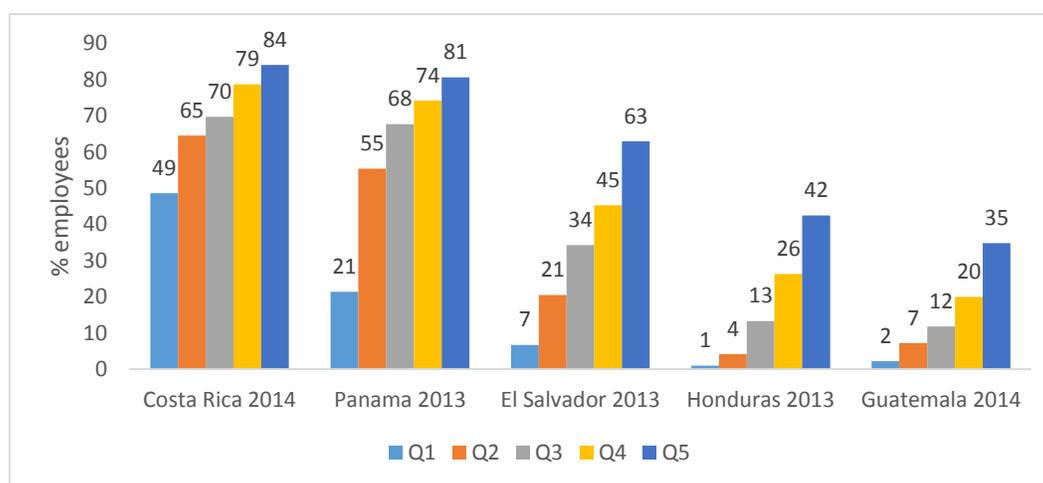
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Social Protection Module).

Figure 92: Gross pension replacement rates: low and high earners
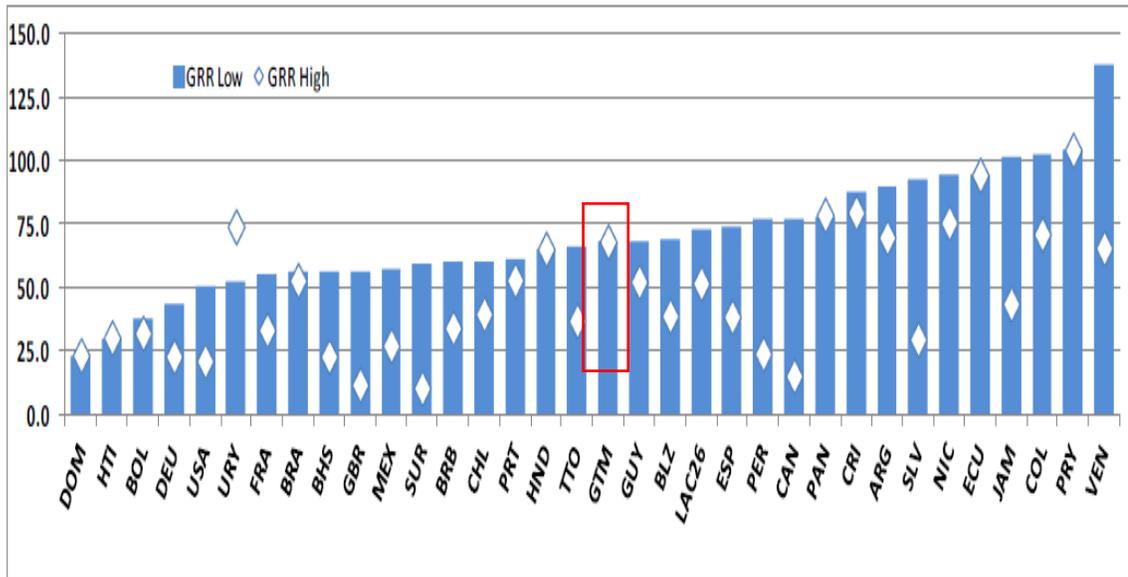
Source: OECD, Inter-American Development Bank, and World Bank (2014).

Social pension spending is declining, and overall coverage and generosity are at very low levels. The non-contributory or social pension is provided through the Ministry of Labor. Officially called *Programa de Aporte Económico del Adulto Mayor*, it was sanctioned by Decree No. 85 of 2005 for people over 65 years who can demonstrate through a socio-economic assessment that they lack enough economic resources and are in a vulnerable situation. Approximately 100,000 beneficiaries receive the social pension, roughly 9% of the elderly in the country. This is a higher percentage than El Salvador, which protects 5% of its elderly through non-contributive pensions, or Nicaragua's negligible coverage of 0.1%. However, it is far below the coverage in Panama (26%), Costa Rica (17%) and Honduras (19%), and especially low among poorer quintiles (Figure 93).[77] Overall spending of the non-contributory scheme declined from 0.138 of GDP in 2010 to 0.106% in 2014 (Figure 94). The social pension amount in Guatemala is relatively low, only about USD 50 a month. In 2012, the social pension payment was equivalent to USD 2 per day (PPP of 2005), well below payments in Costa Rica, El Salvador and Panama. Social pension payments were much lower than the minimum wage: 19.6% in Guatemala, 35.3% in Costa Rica, 42.2% in El Salvador, 22.5% in Panama and 22.6% in Nicaragua (Figure 95).

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[77] Oliveri 2014

Figure 93: Social pension coverage of the elderly by quintiles and countries
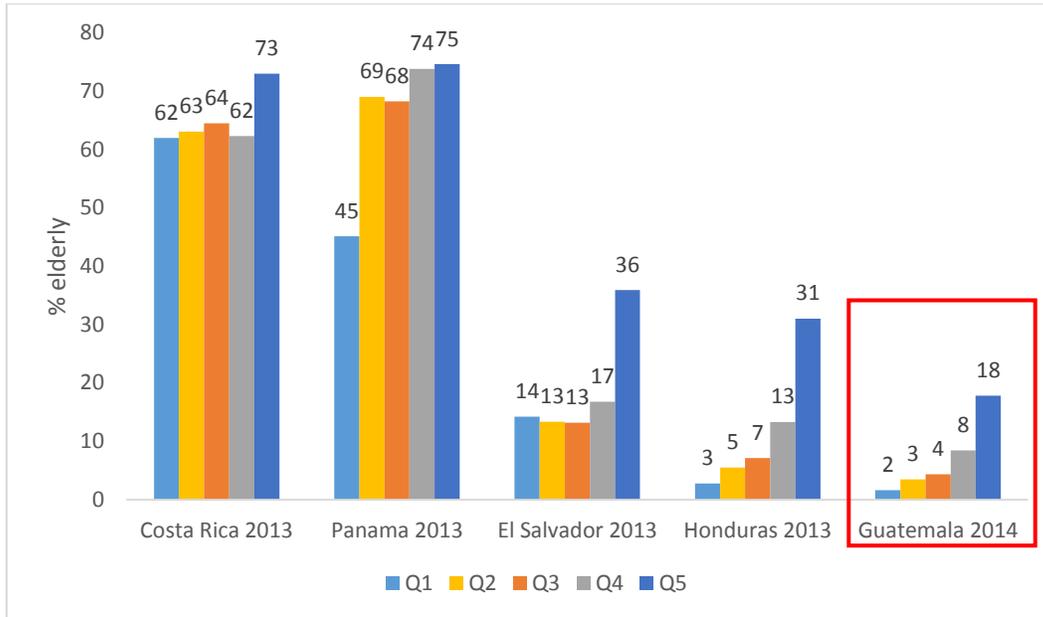
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations

Figure 94: Social pension spending in Guatemala as a percent of GDP, 2010-2014
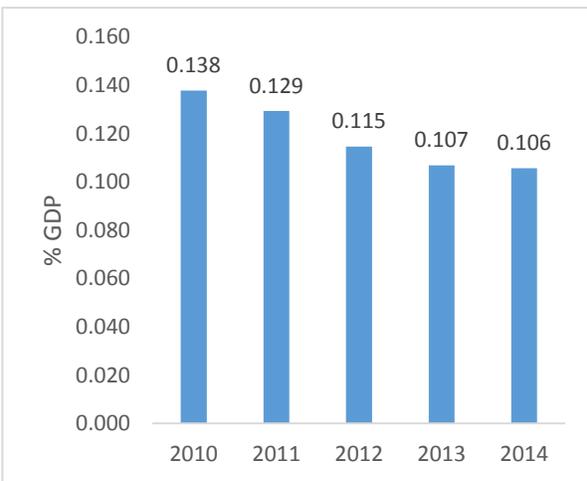
Source: World Bank SSEIR / ICEFI social public spending database

Figure 95: Social pensions in CA: payments per day and as percent of minimum wage, 2012
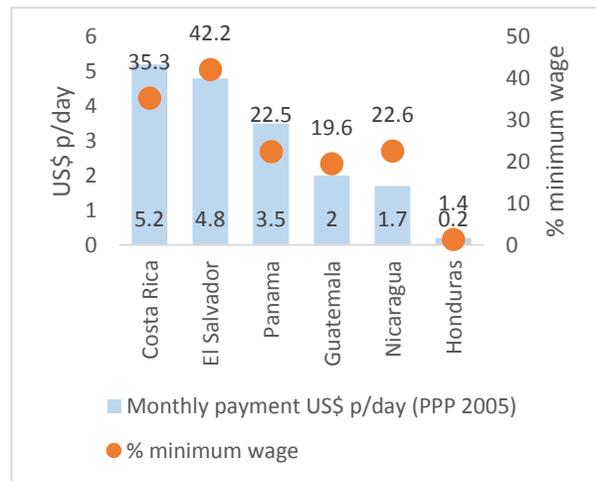
Source: Oliveri, 2014

Guatemala not only has one of the lowest non-contributory pensions, but its distribution is the most inequitable in CA. Only 3% of Guatemala's social pension beneficiaries are from the poorest quintile and 62% are from the richest quintile, the most inequitable distribution in CA

(Figure 96). This signals serious targeting deficiencies in the allocation of the scarce resources of this program, and contrasts sharply with Costa Rica and Panama.

Figure 96: Distribution of social pension beneficiaries by quintiles and countries
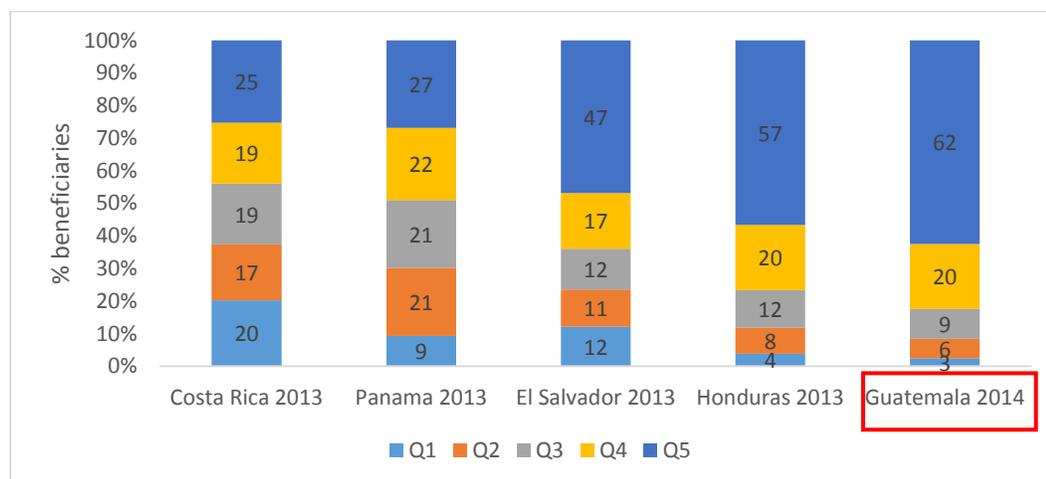
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Social Protection Module).

VI.2.2 Social Assistance

Non-contributory social assistance spending as percentage of GDP has increased in recent years but remains on the low side internationally. Even though spending on social assistance almost doubled from 2007 to 2013 from 0.6% of GDP to 1.1%, this remains low compared to the percentage that El Salvador, Honduras and Panama allocate for social assistance programs, although similar to Costa Rica and slightly higher than Nicaragua. The increase in Social Assistance spending in Guatemala was triggered by two factors: the launch of the CCT *Mi Familia Progresa* in 2008, and an expansion in subsidies, especially in 2009 and 2010 when they accounted for an important portion of social assistance.

Overall coverage and targeting of social assistance programs is good; the CCT in particular reaches an important share of the poor. Despite the fact that the resources allocated to social assistance has not expanded sufficiently to place Guatemala among the top spenders in CA, social assistance programs have good coverage of the poor and targeting has reached an important share of beneficiaries subsisting below the poverty line. Two food assistance schemes (*Vaso de Atol*, and *Bolsas Escolares Solidaridad*) and the CCT Program Mi Bono Seguro had particularly high coverage levels of the poorest households of around 40% in 2014 (Figure 97). The CCT excelled with almost 70% of its beneficiaries among the poorest 40% of the population ("targeting

accuracy") (Figure 98).[78] Food assistance programs also had good targeting accuracy: 76% and 75% respectively. For comparison, targeting accuracy of other feeding programs in CA were 35% - Costa Rica's *Comedor Estudiantil*; 45% - El Salvador's *Alimentos Escolares;* 63% - Nicaragua's *Merienda Escolar;* and 55% - Panama's *Alimentación Escolar.*

Figure 97: Coverage of main social assistance programs by quintile
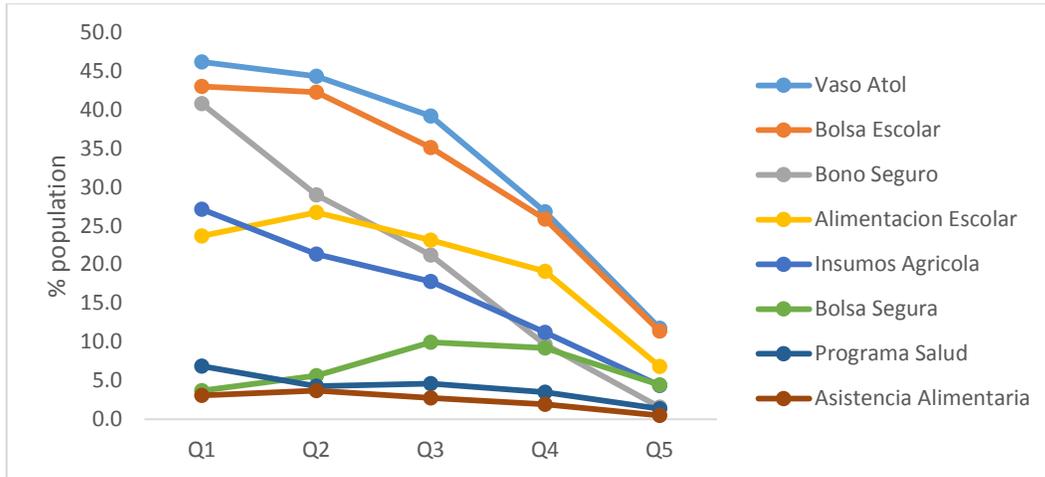
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Social Protection Module).

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[78] This analysis refers to 2014, the latest year for which data are available. Given the changes and implementation concerns of the CCT since then and discussed below, this documented good performance by the CCT may no longer be valid.

Figure 98: Guatemala, 2014 distribution of beneficiaries of main SPL programs by quintile (%)
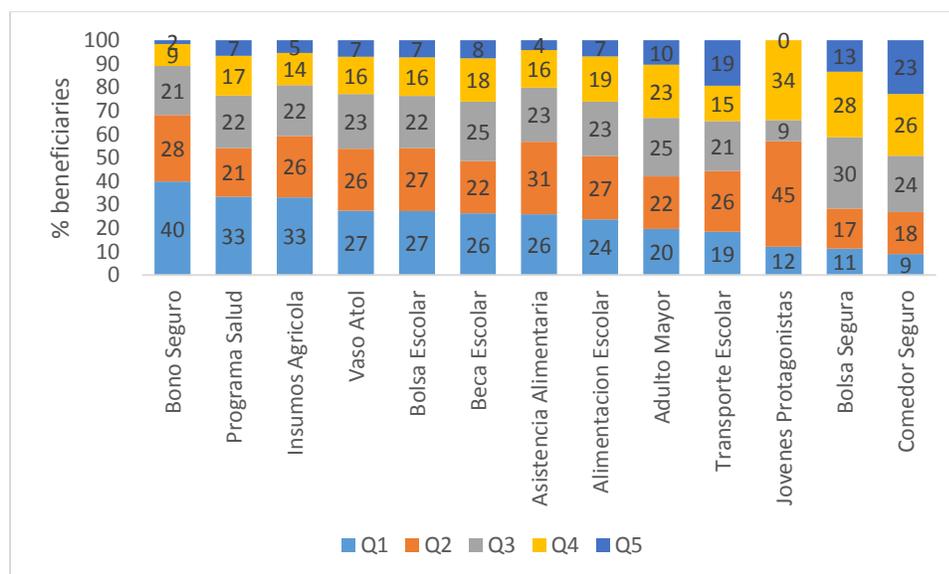
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Social Protection Module).


Housing, transport and (especially) electricity subsidies have become important components of social assistance; their combined budget equals that allocated to cash transfers, and has increased slightly in recent years. Guatemala has a very fragmented but large subsidy system. Government agencies channel funds to private firms that provide various public services in health, transportation, electricity, etc. The main subsidies are for housing (*Programa de Vivienda*), transportation (*Subsidio al Transporte Urbano del Adulto Mayor* – MIDES), and electricity (*Subsidio de Energia eléctrica* and *Subsidio Tarifario*). In transportation and electricity, subsidies are untargeted; they are disbursed directly to private providers to prevent a rise in tariffs. Transport subsidies are normally around 0.1% of GDP, electricity payments are the main budget drivers at 0.25-0.35% of GDP (Figure 99).

Figure 99: Public spending on subsidies as a percent of GDP, 2007-2014
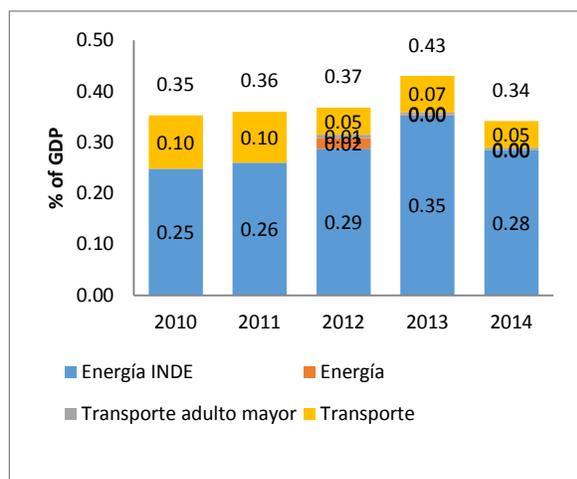
Figure 100: Public spending on subsidies as a percent of GDP by country, CA 2013-2014

Source: World Bank SSEIR / ICEFI social public spending database
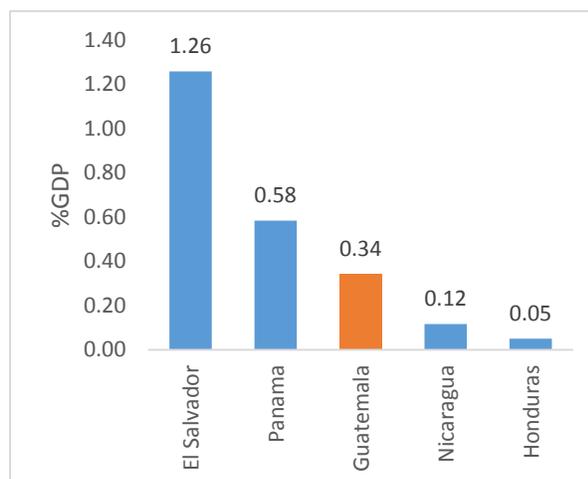
Source: World Bank SSEIR / ICEFI social public spending database

Despite the recent increment, Guatemala remains a mid-level spender on subsidies in the CA region. Guatemala is among the CA countries with subsidy systems that contribute a large share of the resources invested in social assistance. In 2013, Guatemala's subsidies rose to 0.43% of GDP, ranking in the middle of countries in CA (Figure 100).

There is room to improve targeting of energy subsidies. Energy subsidies have been reformed several times over the years to improve targeting and reach more people who have limited access to energy. Currently there are two general regimes: "*tarifa solidaria*" is a 3-tiered scheme of direct subsidies for households consuming 0 to 50 kWh/month, 51 to 100, and 100 or more per month. In addition, the government launched a special tariff for households using less than 300 kWh per month, named "*tarifa social*". Currently, *tarifa social* benefits approximately 11 million people, 76.6% of the population. Clearly, this does not prioritize the poor or more deprived groups. Extremely poor households in Guatemala consume an estimated average of 24 kW per month; poor households use an estimated 53 kWh/month; both well below the ceiling of 300kWh/month for the *tarifa social*.

Guatemala has recently focused important attention on nutrition. Interventions aim to prevent chronic malnutrition in children under 2 years old, and include the PEC and *Programa de Atención Integral a la Niñez y Mujer Comunitaria*. A national strategy *Ventana de los 1000 días*, led by the Ministry of Health, was launched to provide appropriate channels for government programs to protect the first stages of life, starting with pregnancy (270 days, approximately) and lasting through the child's second year of life (730 days). Basic health and nutrition packages are offered that include prenatal care, promotion of breastfeeding, food supplementation, adequate feeding practices, etc.; and are intended to complement other social assistance interventions such as the

CCT *Mi Bono Seguro*, and the feeding program *Bolsa Solidaria*. Coverage of food assistance programs is highest for primary-school aged children between 8 and 13 years old (around 60% received at least one of these programs in 2012). The program with highest coverage is *Vaso de Atol*, followed by the *Alimentacion Escolar* scheme and then *Vaso de Leche* (Figure 101).

Figure 101: Coverage of food assistance programs by age 2011
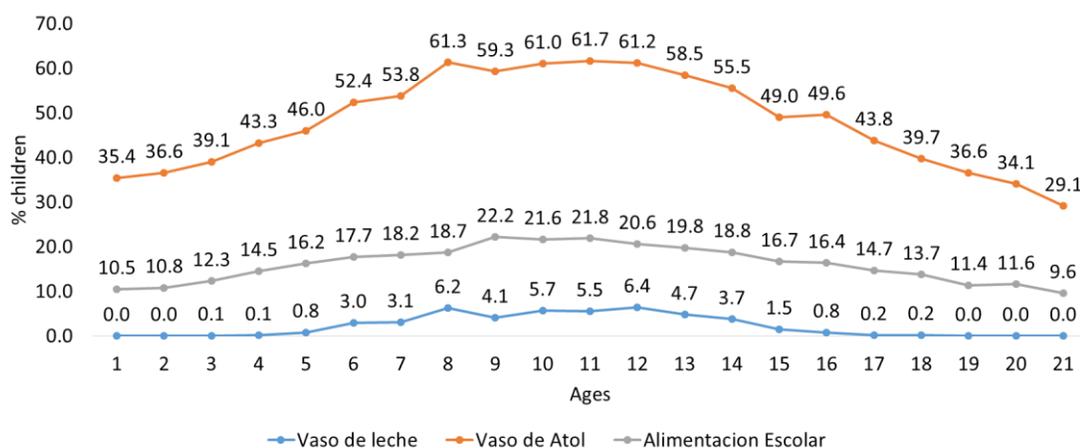
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Social Protection Module).

The adoption of the CCT model in 2008 triggered a rise in resources that peaked in 2010 but decreased in the following years, although the number of beneficiaries kept expanding. Bono Seguro's predecessor, *Mi Familia Progresa*, was launched by the Executive branch in April 2008. The program was renamed *Mi Bono Seguro* in 2012 and placed under MIDES. The CCT focuses on poor families with children under 15 years old, and uses geographic targeting. Beneficiary families are selected within municipalities mapped as poor. Payments are disbursed every two months, equivalent to USD 18.50 for each month that the children have attended school, plus another payment of USD 18.50 per month if parents have taken children for needed health care treatment and recommended prevention services (such as vaccinations). Education and health payments are independent of each other, and irrespective of the number of children of the family – i.e per family, and not per child ("flat benefit" structure). These design characteristics remain, but *Mi Bono Seguro* now comprises two sub-schemes: *Bono de Salud* (health) and *Bono de Educación* (education). Since adoption of the CCT model in 2008, resources allocated to cash transfers rose significantly, peaking at 0.34% of GDP in 2010 and progressively declining thereafter. The number of beneficiaries expanded significantly to more than 750,000 households in 2012, making *Bono Seguro* the CCT with the largest coverage in the CA region (Figure 102).

Figure 102: CCT spending as a percent of GDP, and beneficiary numbers (households)
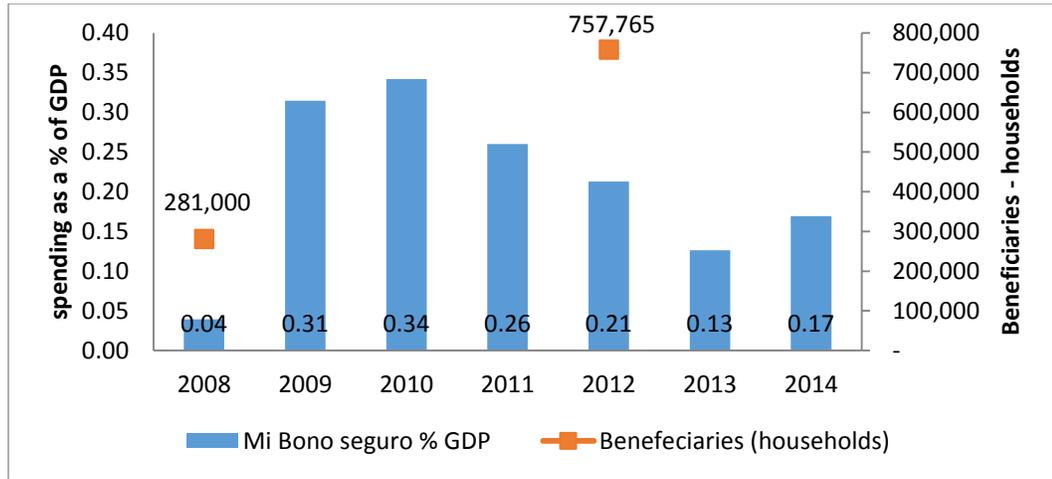
Source: Spending, ICEFI for 2008-2013, LAC SP database and MIDES

Guatemala's CCT spending is comparable to other CA schemes, but generosity is low, and targeting could improve, especially of the extreme poor. At 0.17% of GDP (2014), Guatemala is a mid-level spender on cash transfers in the CA region, well below the 0.55% of GDP that Honduras allocates to its CCT program (Figure 103). The generosity of *Mi Bono Seguro* is the lowest of the CCT programs in CA; the transfer is only 15% of the consumption of the extreme poor or poor, less than half of Honduras' Bono 10 mil 38% of consumption payment to the poor (Figure 104). Guatemala's CCT targeting accuracy has been among the best in the CA region at 89% of the poor, but coverage of the extreme poor is less good.

Figure 103: Public spending (percent of GDP) and coverage of main CCTs by country
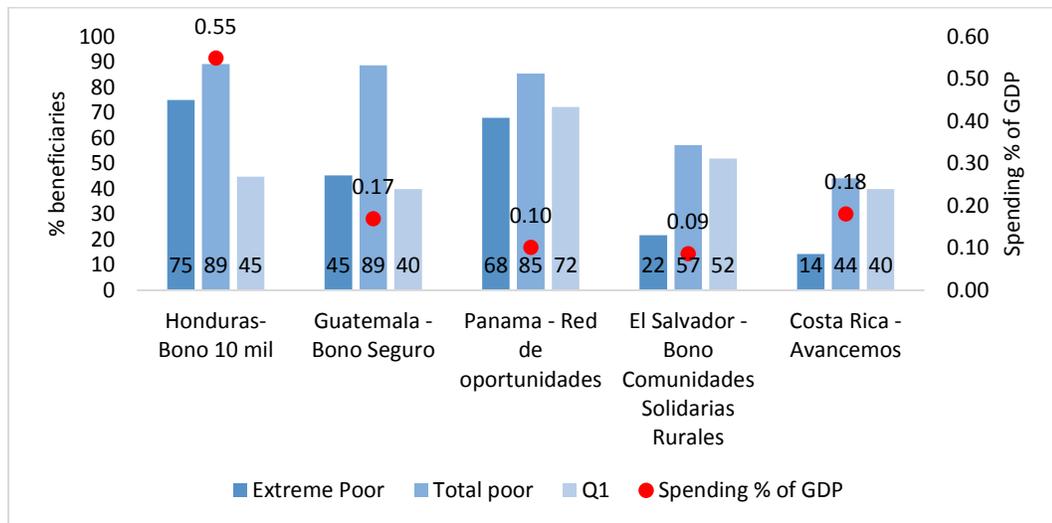
Source: World Bank SSEIR / ICEFI social public spending database and World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Social Protection Module).

Figure 104: Generosity of CCTs by country
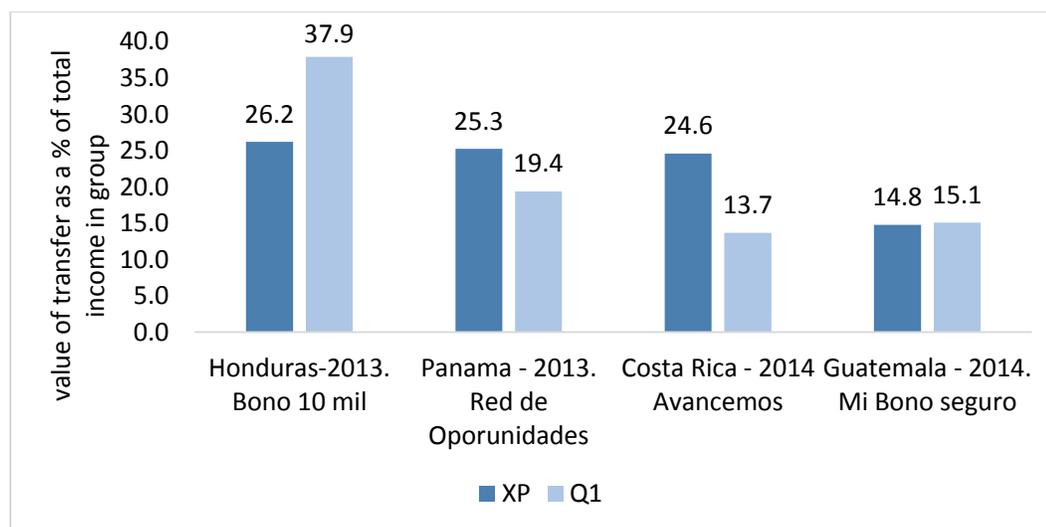
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Social Protection Module).

The CCT program has increased use of health and education services in prioritized areas. *Mi Bono Seguro* has not been evaluated since it was launched in 2012, but impact evaluations are available for its predecessor, *Mi Familia Progresa*. One study (using a difference-in-difference method) estimated that the program increased the number of children promoted between grades in primary education by 8.6%, 10.9% and 11% for the first, second and third levels, respectively (Table 5). The same study found a rise in health services provided in municipalities where *Mi Familia Progresa* was implemented: the number of check-ups attended by children participating in the program rose 48% compared to 28% among those not targeted. The study conclusion praises the program as being more effective in promoting use of health services and educational attainment than previous interventions. However, it also highlights shortcomings in implementation that hampered the effectiveness of *Mi Familia Progresa*, especially related to lack of transparency in the selection of beneficiaries, and the need to improve its targeting systems, and monitoring and evaluation processes.

Table 5: *Mi Familia Progresa* results in education and health

No. of children graduating at first level of primary	Baseline year (2007)	Comparison year (2010)	Dif. %
Group with the intervention	992	1,077	8.6
Group without the intervention	816	857	5
Dif. %	21.6	25.7	
No. of children graduating at second level of primary	Baseline year (2007)	Comparison year (2010)	Dif. %
Group with the intervention	879	975	10.9
Group without the intervention	750	807	7.6
Dif. %	17.2	20.8	
No. of children graduating at third level of primary	Baseline year (2007)	Comparison year (2010)	Dif. %
Group with the intervention	816	906	11
Group without the intervention	699	745	6.6
Dif. %	16.7	21.6	
No. of health checkups attended by children	Baseline year (2007)	Comparison year (2010)	Dif. %
Group with the intervention	185,612	274,397	47.8
Group without the intervention	153,734	196,861	28.1
Dif. %	20.7	39.4	

Source: Global Development Network – FUNDESA

It can be concluded also that the CCT has helped reduce extreme poverty amongst beneficiaries. If the program had effectively delivered the amount of money stipulated to the families enrolled (an unrealistic assumption given the program's implementation and financing constraints, as discussed below), an upper-bound estimate of the impact that it could have had on poverty would have been to decrease extreme poverty by 1.5 percentage points, from 24.9% before the intervention to 23.4% afterwards (Figure 105). The simulation also estimates a possible slight improvement in overall poverty (extreme plus moderate poverty) among beneficiaries from 92.2% to 88.6%). Estimates of the impact on poverty among beneficiaries of CCT programs in other CA countries vary: from 81.7% to 77.2% in Panama; 48.4% to 42.6% in Costa Rica; and 88.5% to 83.9% in Honduras. Similar to Guatemala, CCT programs have had only limited impact on overall poverty.

Figure 105: Guatemala 2014: upper-bound estimates of the impact on poverty of Mi Bono Seguro (total and among beneficiaries)
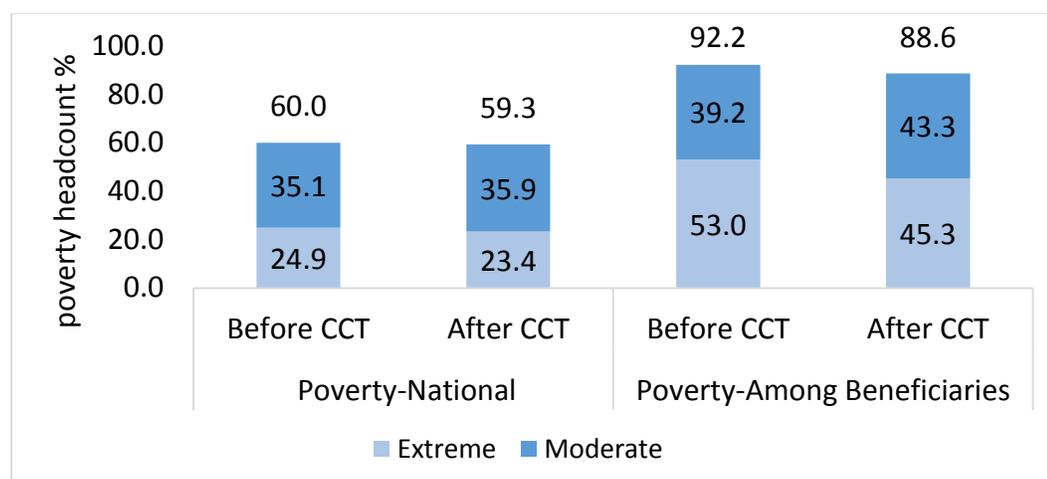
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations

The CCT program has been affected by institutional constraints including poor implementation mechanisms and significant cutbacks in resources. The program was part of the countercyclical measures that the Guatemalan Government prioritized to deal with the impact of the 2008-2009international crisis. Under this plan, resources allocated to CCT peaked in 2010, whereas the number of beneficiaries continued to grow. With the change in administration in 2012, the program lost strength and has faced cutbacks in resources that have caused difficulties in making the transfers to beneficiary families. Spending has been erratic throughout the fiscal year, with periods of no implementation at all, followed by periods in which resources were spent hastily and irregularly. MIDES has not been able to ensure consistent distribution of the transfers in all 307 municipalities (of 338 in the country) participating in the program. Transparency issues have also been identified, and MIDES has not been able to recover and strengthen the Program. The current structure of benefits is also problematic: a flat benefit irrespective of the number of children may not provide sufficient support to larger families, and does not create sufficient incentive to comply with transfer conditions for all children in the household.

VI.2.3   Labor Market Policies and Programs

Unemployment rates are higher among the youth, and people with more education. Youth aged 15 to 24 years old are less likely to be able to find a job than other age group (Figure 106). Relatively higher unemployment among people with higher educated is worrying (Figure 107). Research by the World Bank shows that limited job opportunities for workers with secondary and tertiary education and lower returns to education are prompting school drop-outs in children under

16, undermining their chances to join the formal market. [79] Data collected in the World Bank Employer Survey also show that business owners in Guatemala tend to have fewer years of formal education than peers in LAC, with negative impacts in sectors related to business innovation. These elements could help explain the negligible increase in labor productivity in recent years, which has remained well behind other CA countries. According to the ILO, in the period 1992-2008, marginal labor productivity only rose 0.6% contrasted to 2% in Costa Rica, 1.5% in El Salvador, 1.6% in Honduras and 1.9% in Panama. Only Nicaragua had a lower increase of 0.3%.

Figure 106: Unemployment rates by groups, 2014
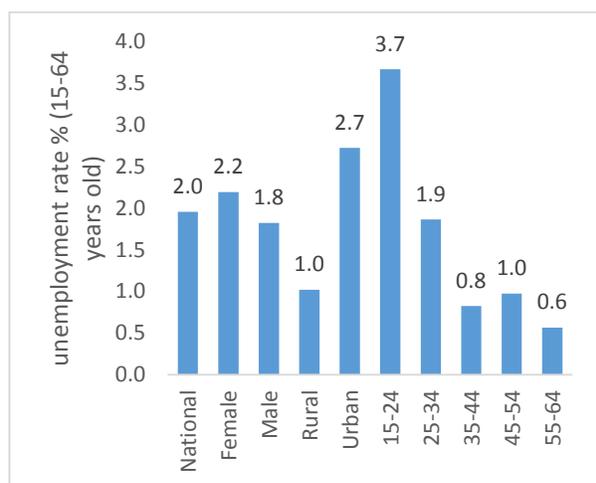
Figure 107: Unemployment rates by educational level, 2014
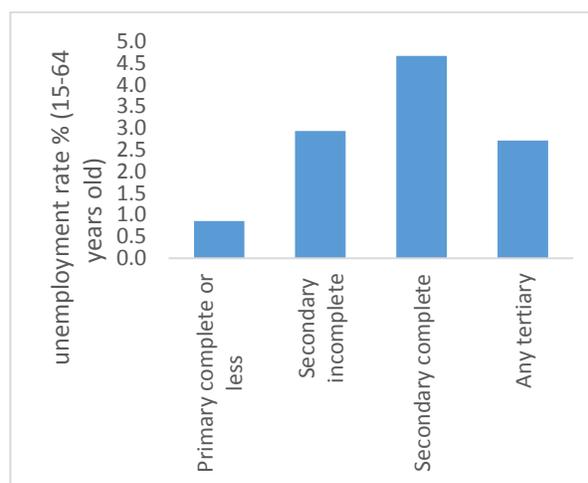
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Labour ILO Module).

Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Labour ILO Module).

Most employees in Guatemala have low levels of education; their incomes are meager compared to other groups, and returns to education are falling. Around 73% of current employees in Guatemala have only primary education or less (Figure 108). These groups (people with no formal education, primary incompleted and completed primary) unsurprisingly, earn less than the median income (Figure 109). However, despite the low proportion of high-skilled workers, returns to education are falling. This trend, coupled with the higher unemployment rate among educated workers, seems to signal weakening demand for educated workers, perhaps related to the concentration of production in typically low-skilled sectors (a third in agriculture, and the rest mostly in low-skilled manufacturing, construction, commerce, and services). Guatemala has a shortage of new, more productive and profitable jobs adapted to the nature of its workforce, and is lagging in the creation of business innovation-related jobs.

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[79] World Bank (2014).

Figure 108: Share of employees by educational level, 2014
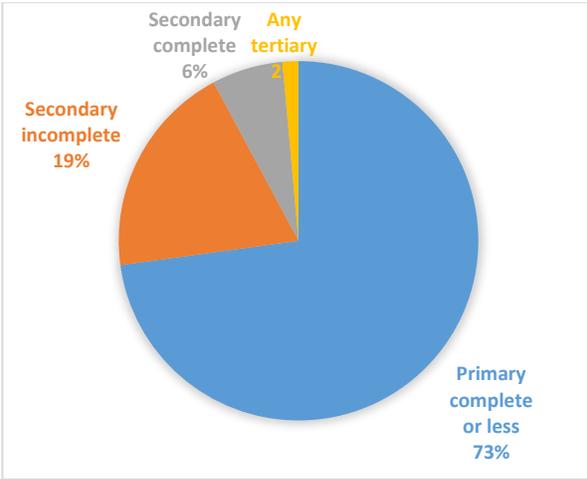
Figure 109: Median earnings by educational level (Quetzales per month), 2010-2014
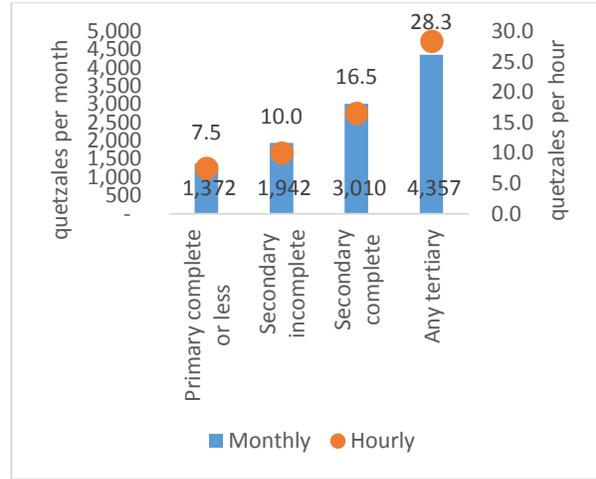
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Labour ILO Module).

Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Labour ILO Module).

Similar to other CA countries, persistent informality and underemployment are the norm among the youth. Overall, informality has been close to 70% for more than a decade (Figure 110). Indigenous and rural workers are more likely to be in informal jobs, with low productivity and lower earnings than other groups. High levels of informality help explain Guatemala's low and stable unemployment rate of 2%, well below the LAC regional average of 6.8% in 2012. However, underemployment is high -- 23% in 2014, well above Costa Rica (14%) and the Dominican Republic (17%).[80] Underemployment is highest among younger workers (Figure 111).

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[80] World Bank 2014

Figure 110: Informality rate in 2002 and 2014 (%)
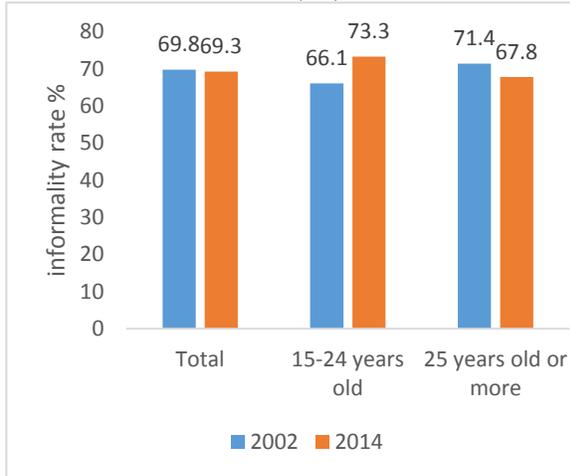
Source: Encuesta Nacional de Empleo e Ingreso

Figure 111: Underemployment as a share of total employment by age group, 2014 (%)
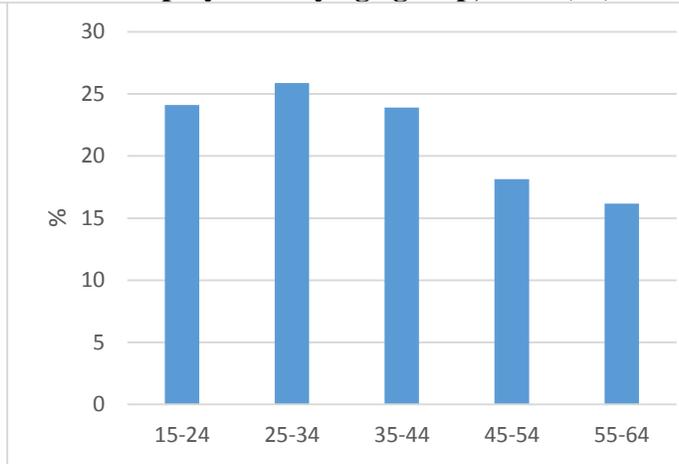
World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Labour ILO Module).

The National Training Institute, INTECAP, provides occupational training, but is resource-constrained. INTECAP's main mission is to become the national specialized agency responsible for developing human resources and fostering productivity in Guatemala. The services that INTECAP provides include: short technical degrees, occupational orientation for youth and adults, full-time technical career training, and mid-level technical degrees. Under the Law that governs the Institute (approved by Decree no. 17 of 1972), INTECAP is financed through the public budget and payroll contributions of up to 1% of salaries, collected from private and public enterprises. This ties INTECAP's resources to the formal economy's performance. INTECAP's spending lags behind other training institutes like INATEC in Nicaragua, and the INA in Costa Rica (Figure 112). There are two main reasons: INTECAP's payroll contribution is much smaller than, for instance, INATEC in Nicaragua's 2% of salaries; and the remarkably high levels of informality in Guatemala greatly constrain INTECAP's revenue base.

Figure 112: Public training institution spending in CA as a % of GDP, 2014
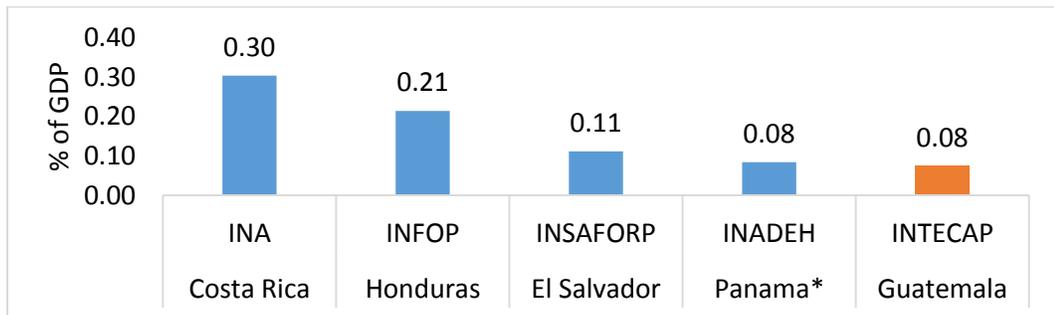
Note: Panama data are for 2013.
Source: World Bank SSEIR / ICEFI social public spending database.

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INTECAP resources rose in 2014, in line with the objective of continuing to expand its number of beneficiaries and reach more youth. Fiscal constraints have hindered the expansion of INTECAP's spending in real terms and as a percentage of GDP (Figure 113). However, INTECAP's budget rose to 250 million in 2014 (in real 2007 quetzales). The career-training schemes offered by the institute have almost doubled their beneficiaries in recent years, from 159,319 in 2007 to 277,464 in 2013. INTECAP's programs also have been aligned to respond well to current labor market conditions and requirements, and have made special efforts to reach the youngest segment of the economically active population. People aged 15 to 34 years made up more than 64% of those who received technical training at INTECAP in 2011 (Figure 114).

Figure 113: INTECAP - Real spending and beneficiary numbers

Source: LAC SP database
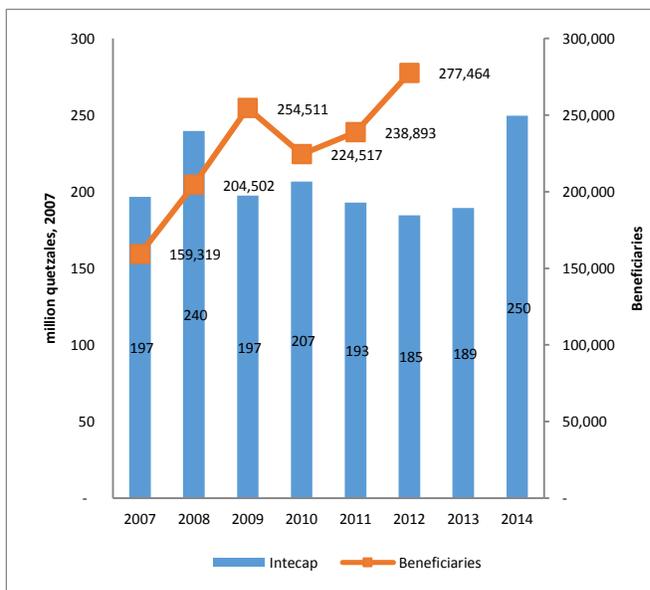
Figure 114: Distribution of beneficiaries by age group, 2011 (%)
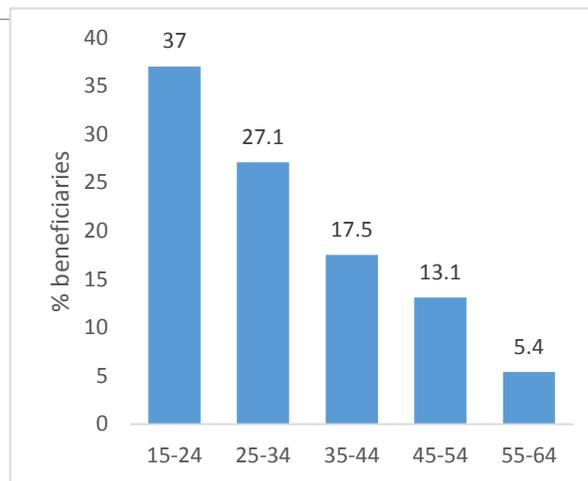
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using ADePT software (Social Protection Module

Employment services are new, and still have very low coverage and limited linkages with other SPL interventions. Labor intermediation services are recent labor market interventions and have not yet expanded broadly, so far serving limited numbers of beneficiaries and with limited resources. Intermediation programs include MINTRA's *Bolsa de Empleo*, an employment service that aims to link workers and private enterprises seeking employees with specific technical skills and work experience. The registry is still small. In 2010, MINTRA allocated USD 866,000 for this program, and cut its resources in 2011 to only USD 620,000 thousand. These programs could benefit from better synergies with other SPL interventions that target youngsters in precarious or vulnerable work situations like the *Jóvenes Protagonistas* program implemented by MIDES. *Jóvenes Protagonistas* is one of the few SPL interventions that is specifically urban and potentially could be linked with other labor market interventions.

VI.3   Institutional Arrangements

Created three years ago, MIDES is now the leading institution in the SPL sector, and has inherited the administration of the main social assistance interventions. The new government sanctioned the creation of MIDES through Decree 1-2012. The Ministry has been established as the governing body for social development, responsible for designing and establishing national policies to enhance the wellbeing of socially vulnerable groups including unemployed youth, children with unmet nutritional needs, and others. MIDES is also accountable for developing national strategies to optimize food security, and education and health services throughout the country, and is expected to coordinate with relevant sectors and subnational levels of government to deliver such services. Among the functions explicitly entrusted to the Ministry are: (a) formulating social development policy for urban and rural areas in a participative manner in coordination with other competent authorities and decentralized structures of the Government; (b) establishing the principles, policies and general actions of this sector; (c) establishing a national system of social information, including a single database of beneficiaries of social services and programs, including impact indicators; and (d) establishing norms and procedures to organize and coordinate social programs across the sectors and levels of government. Some of the most important social assistance programs fall under MIDES, most created before the Ministry: *Mi Bono Seguro* CCT, *Mi Bolsa Segura*, and *Comedores Solidarios*, among others. In addition, various scholarship schemes were added into the *Mi Beca Segura* program, and a new intervention, *Jovenes Protagonistas*, was included, that aims to prevent vulnerable youth falling into criminal activities by offering different culture-related workshops.

The institutional capacity of MIDES needs strengthening; it has not managed yet to address the main program implementation challenges (notably of the CCT). MIDES has yet to complete a thorough process of strengthening its institutional capacities to firmly establish itself as the effective governing body of the SPL sector. Functions entrusted to the Ministry are very ambitious, but it has not managed to solve pre-existing technical issues in the CCT programs related to weak implementation capacity and unpredictable budget allocations from the central level, which result in transfers being disbursed irregularly to beneficiaries throughout the year. In addition, small programs still function under other government agencies, and there is no institutional space to create synergies and enhance coordination across interventions operating under MIDES and those under other governmental departments. For instance, the social pension is distributed through MINTRA, along with other services for the unemployed, but this information is not integrated with systems that MIDES has put in place, like its national social information system. Other important initiatives like the Zero Hunger Pact (*Pacto Hambre Cero*), and the *Barrio Seguro* program also lack mechanisms to coordinate with MIDES. The Ministry has not been able to tackle problems resulting from poor coordination of policies in the sector.

There are still SPL interventions that potentially duplicate efforts and roles at various government levels. The SPL system in Guatemala comprises multiple actors that sometimes have overlapping roles or functions, target the same population groups, and/or implement programs with similar objectives without establishing procedures to coordinate with each other. At the central level, a Social Development Cabinet (*Gabinete de Desarrollo Social*), led by the Vice-president, is responsible for designing and administering activities and policies in social development. Its other functions are to create and develop monitoring systems, and technical coordination of social programs. Cabinet members are from MIDES and other agencies, and, as can be seen from the description of its roles, there is overlap with MIDES's mandate. The Secretary of Planning (SEGEPLAN) is responsible for evaluating the overall social development policy in the country. Like some other countries in CA, Guatemala has legally mandated that an increasing amount of revenues be transferred to subnational levels (1.3% of GDP or approximately 9.3% of total central government spending).[81] This has enabled Guatemala to make significant progress in decentralizing the implementation of basic services throughout the country. The Coordination Secretariat of the Presidency (SCEP) is the agency responsible for providing technical, administrative and financial support to the Local Development Councils (*Consejos de Desarrollo*) that work at the regional and departmental levels. SCEP is also responsible for fostering the decentralization process (with SEGEPLAN), and has played an important role mostly at the local level. MIDES is responsible for ensuring articulation and complementarity among national programs and local interventions. All these efforts need considerably improved inter-institutional coordination in the sector (Table 6).

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[81] Calculations based on information obtained from the Ministry of Finance (budget approved for 2012), SIAF Municipal (transfers to municipalities) and IMF World Economic Outlook Database (GDP).

Table 6: Social protection: Institutions, roles and responsibilities identified by the Guatemalan government

Agency	Role	Responsibilities
Ministry of Social Development	Governing body of the social sector	Launch policies to enhance the wellbeing of those in poverty, extreme poverty and vulnerable to social risks. Implement Social Protection programs. Design and implement an overall monitoring System. Establish a National Social Information System.
Ministry of Labor and Social Security	Social Assistance and Promotion	Provide cash transfers to the elderly and training to unemployed youth. Establish alliances with private enterprises.
Ministry of Economy	Social promotion	Offer workshops in artisanal and handicraft skills, place products in national and international markets.
Ministry of Communications, Infrastructure and Housing	Social assistance and prevention	Provide subsidies for building and maintaining subsidized housing
Secretaría de Bienestar Social	Social Protection, prevention and reinsertion	Implement programs to protect children, adolescents and other population from social risk.
SOSEP	Social Assistance	Provide coordination mechanisms for public and private institutions implementing activities to increase the wellbeing of vulnerable groups. Carry out programs and projects targeting the poor and extreme poor in rural and urban areas.

Source: SEGEPLAN (2015)

MIDES is implementing a single beneficiary registry (*Registro Unico de Usuarios Nacional*, RUU-N) that systematizes data from beneficiaries currently enrolled in social programs; however, it has proven difficult to ensure cooperation of different agencies. The single beneficiary registry RUU-N was launched in 2013. Earlier efforts to compile beneficiaries' data used the *Sistema de Información Social* (SISO) that gathered a collection of social indicators in health and education, and the Rural Census done to gather data for the CCT. RUU-N is embedded under MIDES and its main objectives are: (a) to provide a platform for compiling a list of beneficiaries with unique identifiers; (b) to produce information to analyze and improve the focus of interventions on target population; and (c) to enhance accountability and transparency practices. A new Single Identification Code (CUI) will issue a unique ID number for each individual included in the RUU-N; a CUI will be a requirement for inclusion in RUU-N. RUU-N is already functional but the information is not publicly available yet because the implementation process is still underway. Based on its mandate, MIDES began a process to establish a dialogue with other ministries and public agencies providing social services. The task has not been trouble-free; some

agencies have been reluctant to share their databases or beneficiary registries. This is an indication that MIDES needs more institutional strength to be able to fulfill its mandate. Despite these issues, by 2014, RUU-N had finalized a first list of 2.6 million beneficiaries with information from 16 agencies (including MIDES, SEGEPLAN, and the Ministries of Education and Agriculture) for 72 programs distributing 142 different types of benefits. Information includes beneficiaries' location and the specific benefits they are receiving. Even at this initial stage, this is an important achievement by CA standards regarding the use of codified beneficiaries' registries.

Guatemala's 2014 national policy framework includes priorities in the SPL sector. Another aspect to consider when analyzing the current institutional setting for the SPL sector is the recent elaboration of the National Development Plan "K'atun Nuestra Guatemala 2032" (2014), produced by SEGEPLAN. This policy document establishes guidelines for government and private interventions within a set of national policy objectives. It was drafted following a thoroughly participatory approach that included large meetings throughout the country with different stakeholders: representatives of the sub-national levels of government, Mancomunidades (clusters of municipalities), NGOs, grassroots organizations, women and indigenous organizations, etc. Some of the social sector goals aim to ensure social protection mechanisms to guarantee individual and social welfare, secure nutritional and food security, and increase coverage of education, among others. Its guidelines seek to enhance linkages between the social and productive sectors in urban and rural areas. The policy recognizes gaps in the social policy sector that are consistent with those identified by analyses of the performance of social policy programs. These include: protecting children through more interconnected strategies for which MIDES needs institutional strengthening to partner with programs like *Hambre Cero*; and prioritizing training for urban youth. Social assistance programs such as Bono Seguro could benefit from this approach by establishing mechanisms to move towards a more inclusive strategy, oriented to enhance productivity of beneficiaries by linking conditionalities with other goals in Plan K'atun.

VII. Conclusion and Policy Recommendations

Guatemala in the last ten years is a story of decent economic growth but failure to improve human development indicators or reduce poverty (which is actually increasing). Economic growth in Guatemala surpassed the Central American average over the past ten years, but the majority of the population has not benefited. Poverty levels are stubbornly high, and despite the recent decrease in inequality (albeit from one of the highest levels in the world), poverty has risen recently, and affect almost three-fifths of the population. Performance in human development is disappointing relative to comparison groups (Latin America, Central America, or countries with similar income levels). Despite progress in primary enrollment, low secondary enrollment and completion rates persist. Guatemala's undernourishment rate has increased to 30%, which is among the worst in the world, and three times the averages in Latin America and Central America.

Unemployment rates remain low, but a quarter of workers are underemployed, and 70% are in low-paid informal work.

A major causes of this paltry performance in poverty reduction and human development indicators is the limited State provision of key social public services, with very low resource allocations and inefficiencies in spending. Despite the slight recent increase, social public spending as a share of GDP is not only the lowest in Central America (across all social sectors, including education, health, pensions, and just above Nicaragua in social assistance), and above only Nicaragua in per capita real terms, but is also among the lowest in the world. An allocation of just 8% of GDP for social spending is not surprising when general government revenues are only 11% of GDP (also among the lowest in the world). Without an ambitious fiscal reform that could guarantee sufficient resources for public services provision, this situation will remain in the future. In the meantime, there is significant room for improvement in the quality (a tenth of approved budgets to social sectors is regularly left unspent each year) and targeting of spending (which overall favors mostly the non-poor, mainly through regressive pension benefits), as well as tracking, evaluation and feedback mechanisms.

VII.1   Education

 Guatemala still spends less on education than every Central American country except Nicaragua. Major challenges remain in the education sector, including very low spending per student – especially in secondary education, and the highest repetition rates in Central America. One in eight primary students in Guatemala repeats a grade each year. This likely demotivates students, inducing dropouts even before the completion of primary education. Tertiary education remains a privilege of wealthier households, and the existence of only one public tertiary institution with limited places raises concerns about equity. There are stark inequalities in spending and outcomes across the country, especially for enrollments at the secondary level. These inequities especially hurt girls in rural areas, and data suggest that the financial burden on households is the most significant cause of low secondary completion. Finally, learning outcomes have improved significantly[82] but Guatemala still ranks well below the LAC average in SERCE or TERCE. These shortcomings are compounded by three significant institutional challenges. First, the legal framework for education needs to be updated to clarify and formalize responsibilities, reduce fragmentation, and address key education system needs. Second, while the quality of the professional in-service teacher-training is good, the program's long run sustainability requires stronger financial planning and closer linkages with teachers' career progression. Third, at the tertiary level, the existence of only one public university, USAC, creates a bottleneck in access and equity. We summarize below the main policy recommendations to address these challenges in Guatemala's education system.

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[82] These likely have been supported by falling student teacher ratios and the expansion of the CCT program.

A more efficient and quality-oriented education system requires an updated legal framework. In the *short term*, bylaws must be enacted to codify the division responsibilities defined under the 1991 Education Law. Without this legal framework, the responsibilities of the Ministry of Education and other government agencies providing education services will remain fragmented and unclear, resulting in poor service. Second, regulation should focus on strengthening non-traditional education by establishing a National Board for non-traditional education (*Junta Nacional de Educación Extraescolar*), as mandated in the 1991 Education Law. In the *medium term*, the amendment of the 1991 Education Law is an inevitable step to reflect the modern needs of the Education system. In 1991, the Peace Accords had not yet been signed, primary education was not yet universal, public secondary education was insignificant, and non-traditional education played a much more significant role. Today, access and quality have expanded at all levels, and non-traditional education paths need to be more closely integrated with traditional paths. In addition, there is need to align this Law with the 1995/96 Peace Accords, the current Law of the Executive Power (Community Participation), and the regulatory framework for Decentralization.

Drawing more on information systems, and analysis to incentivize the development of access-boosting policies, especially for secondary education is critical. A *short run* priority is to tackle access, retention and completion issues, by piloting and evaluating different interventions to motivate students to be in school, and address repetition and dropout rates especially for girls and in rural areas. Recent evidence shows that promising demand side interventions include simultaneously strengthening CCTs and intervention informing parents of the value of education.[83] The analysis of relatively high user fees at the secondary level, low public funding, and high dropout rates, suggests that the financial burden of secondary education falls too heavily on households – more evaluation of how user fees for secondary education are an actual barrier to enrollment is needed. When 2014 ENCOVI data are available, it is important to analyze user fees for secondary education to inform eventual elimination of financial barriers in a sustainable way. In the *medium term*, and as enrollment and quality issues at the primary level are adequately resolved, there needs to be progressive rebalancing of spending towards secondary education to address dropout rates.

Guatemala also needs to focus more on improving the quality of education to achieve better learning outcomes. In the *short term*, teacher quality will be an important driver of education quality and learning outcomes. However, measures to actually increase teacher quality need not necessarily involve significantly increased spending. For instance, strengthening the Ministry of Education (MINEDUC) monitoring and evaluation capacity at local levels could make a big difference for quality. Simply leveraging on existing information systems, especially those that currently feed the school report cards that are available online can make information flow better and increase accountability. Rethinking the sustainability of the flagship professional teacher

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[83] For a review see Almeida et al (2015).

training program (PADEP/D) through a substantial review of the budget allocation to both the MINEDUC and the USAC could be another important way forward. In the *medium term*, an increase in the quality of the teacher corps must be supported by complementary reforms in the processes of recruitment, retention and teacher evaluation, to ensure that the country has more motivated and qualified teachers. Addressing the strong compression of teacher's wages by linking teacher evaluations and performance with career progression will also increase the attractiveness of the professionFinally, an increase in the long-term sustainability of the professional in-service teacher training program (PADEP/D) will require more financial planning and closer linkages with career progression of teachers.

Increase the equity and efficiency of public spending. In the *short run*, this implies a reallocation to increase per student spending on the most vulnerable groups, and across regions from areas with lower poverty rates to areas with higher rates. It will also require piloting and evaluating different pro-poor programs/incentives (including financial) to overcome barriers to enter and remain in secondary education, and scholarships and other measures to enable the most vulnerable to attend higher education. In the *medium term*, infrastructure investment is needed to address some of the gaps especially for secondary education in rural areas. Finally, the country would also benefit from improved access of the most vulnerable students to higher quality tertiary providers. This could be achieved, by piloting and testing new scholarships/vouchers for students and by improving the quality standards of private providers.

VII.2   Health

Despite having among the lowest public spending on health relative to GDP in the LAC region, Guatemala has made some progress in improving health outcomes and in increasing coverage rates for certain services, but significant challenges remain. Guatemala's chronic malnutrition rate remains the highest in LAC and among the highest in the world. Its maternal mortality rate decreased but remains well above the LAC average. Non-communicable diseases have become the major cause of morbidity and mortality. Service utilization rates are significantly lower for the poorest and indigenous populations who also tend to live in rural areas. MOH standards for facility-to-population ratios would be met only if the country still had its 1950's population size. Even with the MOH's efforts to compensate for the inadequate availability of primary health care facilities through the use of mobile health teams, less than half of the population are covered by primary health care services as a result of the cancellation of the Extension of Coverage Program in February 2015 and the delay in rolling out the new institutionalized primary health care model. Quality of care also remains an issue, with shortages of health professionals and medical inputs. Guatemala's health personnel to population ratio in 2013 was only half of the WHO standard. There are frequent shortages in drugs and medical inputs in all facilities, especially in the major hospitals.

Insufficient funds are a major constraint to improving the coverage and quality of care, yet there is also room for enhancing the efficiency of public spending on health. Guatemala has one of the lowest per capita health expenditures in the LAC region. The health sector budget is inadequate to address the significant coverage gaps and quality issues related to staffing and availability of essential inputs. While there is a clear need to increase the public resources allocated to health and to reduce delays in the flow of funds, there are also several opportunities for improving the efficiency of health spending, particularly in human resource management and procurement of drugs and medical inputs. Specific examples include ghost employees, contract awards that do not meet technical standards and procurement guidelines, pharmaceutical firms that game the system, and uncoordinated purchases across key health institutions.

On the institutional side, there has been mixed progress in implementing the MOH's 2014-19 strategy which aims to contribute to universal health coverage. The MOH has made progress in: (a) training staff to strengthen service delivery and monitoring; (b) expanding the implementation of integrated health service networks to improve coordination across the three levels of care from Guatemala City to selected areas in four other departments: Sololá, Huehuetenango, Quiche, San Marcos; (c) rolling out the new primary health care model which is based on a life cycle approach and goes beyond the maternal and child focus of the previous model; and (d) piloting results based budgeting (RBB), emphasizing the first 1000 days of life (pregnancy and the first two years of a child's life) based on its agreement with the MOF under the Zero Hunger Program - one of the Government's flagship programs. The MOH had originally planned to expand RBB to all Health District municipalities and hospitals based on cost centers by 2015. While some work has advanced in establishing cost centers, and improvements have been made in the Health Management Information System (SIGSA), as well as in the results orientation of MOH reports to the MOF, progress in implementing the 2015-19 strategy has been less than planned mainly because of resource constraints and funding delays, cancellation of the PEC without a service delivery transition plan, and limited institutional capacity at central and local levels.

The new Administration includes health as one of its three priority areas, and has prepared major strategies that need to be supported by concrete operational plans and resources. The current Government has officially launched its 2016-2020 strategy to reduce chronic malnutrition. It has also prepared a strategy to strengthen primary health care and drafted a health sector reform proposal. It has already launched a series of consultations with different stakeholders with regard to these proposed initiatives. Implementation of the nutrition strategy and the MOH's primary health care strategy will require additional resources to address existing significant coverage and quality gaps. This makes identifying ways to reassign and/or generate more funds for health and nutrition a key areas of focus for the proposed health sector reforms. Another important area of focus of the proposed reforms would be to improve the efficiency of health spending, including by expanding the use of results-based budgeting in the health sector.

In moving forward, the Government of Guatemala could consider the following short term (one to two year) recommendations in the health sector:

1. **Address financial flow bottlenecks.** While it might be difficult to increase the health budget significantly in the short term, the MOF and MOH could work together to identify and address as soon as possible the key factors that impede funding flows from central to local levels. The MOF could also consider increasing spending ceilings in sectors that perform well against clear and transparent criteria.

2. **Identify and implement a transitional service delivery mechanism in areas that are not yet covered by the new Primary Health Care Model.** Rolling out the new PHC model which seeks to provide health, nutrition and population services using a life-cycle approach throughout the country may take time because of funding and staffing constraints. In the meantime, the MOH could consider using a short-term, scaled-down delivery mechanism to deliver basic health and nutrition services in rural and indigenous communities that currently do not have any access to health services, prioritizing areas where the PEC used to operate.

3. **Finalize costed operational plans for the new nutrition and strengthening primary health care strategies with corresponding budget allocations.** While some funds could be reallocated based on efficiency gains from measures like those mentioned above, the MOF would need to allocate more resources toward main priorities in the sector if the Government wishes to reach its nutrition and health targets.

4. **Develop a costed action plan to operationalize coordinated strategies to reduce the cost of medicines.** In the short term, technical specifications of bidding documents could be improved. The availability and adoption of standardized, common bidding documents and a common essential drugs list for all public entities especially the MOH and IGSS could provide economies of scale. Efficiency gains or savings from procurement could also be achieved by amending the procurement law so that suppliers who are awarded contracts and do not deliver on time under the Open Contract Mechanism, are not allowed to bid for the same lots after Health Areas and Hospitals obtain the MOF's clearance to purchase outside negotiated prices to avoid drug stockouts.

5. **Strengthen the MOH human resource (HR) data base and use it more strategically to improve human resource management.** The MOH plans to make a detailed inventory of health sector staff. A consolidated data base is needed for an Integrated HR Information System. The MOH HR information system could include the disaggregated distribution of the MOH health workforce, their academic qualifications, skill levels, and training needs. These data are essential for designing and implementing a human resource strategy that would also need to project HR demand and supply by levels of service and by category of personnel, and monitor progress in meeting the national objective of an equitable nationwide staff distribution.

6. **Explore the possibility of re-negotiating the collective pact with health workers.** The Collective Pact aimed to increase staff morale and, in turn, performance, by converting approximately 20,000 health workers to permanent staff; and to encourage staff to work in rural areas by providing incentives and increases in per diems. However, it is not affordable because the MOH's 2016 budget is significantly less than the Q1500 million increase required to finance the implementation of the Collective Pact. While politically difficult to do, the MOH could consider offering long term contracts instead of annual ones, and provide non-monetary incentives such as public recognition and special training opportunities or financial ones that are within its budget.

In the Medium term (three to five years), it is recommended that the Government focus on four main areas:

1. **Develop, cost, and implement a phased and coordinated strategy to improve access to health and nutrition services to progressively reach poor, rural, indigenous areas.** Expanding the coverage of services to vulnerable populations remains a critical need in Guatemala. It is important to determine the appropriate service delivery mechanisms to ensure good-quality, cost-effective coverage in rural and remote areas and include a phased and costed plan to support its implementation. The MOH's ongoing process of introducing its new primary health care model could be evaluated periodically and the lessons learned incorporated in moving forward with expanding service coverage. The new PHC model will need to be linked with other levels of care to ensure timely and appropriate referral and treatment. This makes it important for the MOH to continue to strengthen the capacity of secondary level facilities to provide quality services based on established protocols, as well as to respond in a culturally sensitive manner to health care needs of local users, especially indigenous communities, and also to improve management information and supervision systems across levels of care. It will be essential to estimate the cost of proposed health system improvements (including infrastructure; key inputs: staffing, equipment, medicines; and Health Management Information System) that operationalize priorities in the MOH's new Strategy to strengthen primary health care and its links to other levels of care, and prioritize and phase their implementation based on available financial resources and other feasible financing mechanisms.

2. **Mobilize resources and ensure timely flow of funds to enhance coverage and quality of services and expand results-based budgeting (RBB) in the sector.** The MOH's 2015-19 strategy's main goal of contributing to the achievement of universal health coverage and expanding RBB in the health sector to the Health Areas and hospitals will require more resources. While some funds could be reallocated based on efficiency gains (for example, savings from improving drug procurement, removing ghost employees and preventing politicized appointments), additional funds would still be needed to improve service coverage and quality, as well as implementation capacity. Guatemala is already using taxes on tobacco and alcohol sales to finance health services but public financing of the health

sector remains low. The MOH in collaboration with the MOF could consider increasing funding for health through taxes on sweetened beverages as Honduras is proposing to do; or could look into other options that might be feasible -- for example, Gabon has a levy on mobile phone companies, Lao PDR has hydropower levies, and Pakistan taxes pharmaceutical companies. Ensuring the timely flow of resources will also be essential.

3. **Develop, cost, and implement an HR strategy that attracts and retains health workers, and that also addresses inequities in access.** This strategy could include a communications strategy to encourage more people to pursue a career in the health sector, improved distribution of staff across health areas, and ways to retain staff. Changes in training would need to be coordinated with the MOE. The MOH could also consider (a) reclassifying professional nurses to make their salaries commensurate with their qualifications and functions, and identifying the main factors behind high dropout rates in nursing schools; and (b) strengthening the training of auxiliary nurses and ensuring that all training schools adopt a common approach. Health human resource management could be strengthened by: (i) looking into the feasibility of offering non-monetary incentives (e.g. special training, public recognition) to complement recently established monetary incentives to attract staff to work in rural and remote areas which have been challenging to finance given the MOH's limited budget; (ii) continuing to explore and use mobile technologies in training and providing health services (such as online consultations); (iii) implementing measures to mitigate the politicization of appointments and ensure that persons hired meet the requirements of their TORs by implementing random technical audits, and (iv) implementing a standardized and transparent process of evaluating staff performance with well-defined incentives and sanctions that are systematically applied.

4. **Prepare and implement a costed action plan to strengthen pharmaceutical management and develop an integrated public policy on medicines.** Given that medicines make up approximately 64% of out-of-pocket costs, there is a need to improve the institutional capacity of the sector to manage pharmaceuticals and ensure the availability of a set of essential drugs in primary health care centers. Having an integrated, coordinated public policy on medicines, together with improvements in planning and budgeting, procurement, and other steps along the supply chain including monitoring and supervision could contribute to reducing stock-outs of essential medicines.

VII.3   Social Protection and Labor

Social security spending has remained stagnant in recent years and is one of the lowest in CA; the non-contributory component has low coverage and generosity, and is poorly targeted. Spending in the main contributory regime, IVS, has not improved in recent years, varying around 1.9% of GDP. This is the lowest share spent on social security in CA. Coverage rose in absolute and relative terms, but not enough to improve Guatemala's position in CA in this regard either. The 23% of the elderly who are protected is among the lowest in LAC. Equity

remains an issue for both the contributive and non-contributive regimes, but adequacy of benefits is fair especially for low income workers in the contributive regime. The social pension has maintained relatively stable spending but is less generous than other countries in CA. In addition, there is still room to enhance targeting especially of the poor (lowest two income quintiles).

Some of the main challenges for social assistance in Guatemala are to increase spending and prioritize interventions that deliver more beneficial impacts to the poorest, such as the CCT (over poorly targeted utility subsidies). CCT needs to improve its implementation performance. The adoption of the CCT model bolstered the resources spent in cash transfers paid directly to the poorest until 2010, with some beneficial impacts already seen in health outcomes and school attendance. Some of these outcomes have the potential to impact poverty rates, which should be analyzed further. It is also worth continuing to explore other ways to use the CCT model. Nevertheless, the program has implementation issues and suffered a budget cut, these should be addressed to maintain and improve the results already achieved. The CCT also requires an increase in benefit levels (more important than further expansion of coverage which is already high) and a change in benefit structure. The current flat benefit irrespectively of the number of children may not provide sufficient support to larger families, and also does not create sufficient incentives to comply with transfer conditions for all children in the household. It would be advisable to change to a "per child" benefit as Honduras has done, and to revise the accountability procedures to achieve more transparency. A strong anchor with the RUU-N is an opportunity to position the CCT as the main platform for other social assistance interventions, some of which should be reconsidered to avoid duplication and create more fiscal space for the CCT. Given budget constraints, it may also advisable to restrict coverage of the CCT to the extreme poor only (another recent change made in Honduras). Revising the conditionalities of the CCT is another aspect to consider; there is scope, for instance, to include new areas in the program like nutrition-related outcomes or secondary education. Additional fiscal space could also be obtained by reducing and phasing down untargeted utility subsidies, such as for electricity and transport.

The labor market sector faces important challenges derived from the nature of the workforce in Guatemala. An important labor market challenge relates to young people aged 25 years or younger, who currently account for 35% of the employed population. Demographic trends have created a lot of pressure to absorb large numbers of young people in the labor market. This has not been adequately tackled by labor market programs except for INTECAP, which faces financial constraints and obstacles to increasing resources for its programs. Intermediation programs are small and growing very slowly, and passive labor market interventions such as unemployment insurance schemes are not in place yet. The relatively small unemployment rate hides the prevalence of this problem among some specific groups, mainly young people who have not completed secondary education. The main message is the need to design and carry out more interventions to link youngsters to the labor market; for instance, utilizing the platform provided by INTECAP's various packages of technical training, and also ensuring that INTECAP's training centers are effectively reaching the youth.

On the institutional side, the launching of MIDES provided a platform to manage the different programs of the sector under one umbrella; however the Ministry has not been able to tackle technical deficiencies in implementation yet. MIDES gathers under its sector the most important programs in Social Assistance; however, it also inherited shortfalls in implementation related to poor targeting mechanisms, irregular payments and transfers, and generally low institutional capacities to maintain consistent execution throughout the year and in all areas. Some progress has been accomplished through the establishment of SISO and RUU-N, but it is not enough. The sector also faces duplication issues with agencies implementing different interventions not coordinating among each other on roles, targeting mechanisms, and strategies. Coordination could enable a more integrated approach for different target populations (children, youth, elderly), and geographic areas (urban/rural). Even though some initiatives on this have started, MIDES has not consolidated itself yet as the coordinating mechanism across sectors and levels of government.

To tackle fragmentation, the completion and mandatory use of RUU-N by all agencies implementing social protection interventions is a must. Precisely to avoid fragmentation, improve targeting, and reallocate scarce resources to those most in need (for examples as subsidies or social pensions), RUU-N should be strengthened through legislation to mandate its use and by tying budget allocations to its use, and used effectively as a policy tool to enable more efficient policy decisions. Improvements also could be made in identifying the beneficiaries in each household, estimating the type and number of benefits each family receives, and tackling structural deficiencies in the targeting and coverage of each program.

Appendices

Appendix 1: Matrix of Short- and Medium-Term Options for Policy Reform

	Short-term options	**Medium-term options**
Education		
Update the legal framework for education sector	• Produce by-laws to operationalize the 1991 Education Law. • Implement the National Board for Out-of-School Education mandated by the 1991 Education Law.	• Amend the 1991 Education Law to adapt it to current sector challenges and, most importantly, to align with the 1995/96 Peace Accords, the current Law of the Executive Power (Community Participation), and the regulatory framework for Decentralization.
Rebalance spending to increase access; boost spending especially for secondary education	• Make more use of and incentivize use of information systems and monitoring and evaluation systems to evaluate cost effectiveness of selected programs (at central and local levels). • Tackle access, retention and completion issues by piloting and testing different interventions that address motivation, repetition and dropout rates especially for girls and in rural areas (e.g., on the demand side, strengthening simultaneously CCTs and/or interventions to inform parents on the value of education).	• Progressively rebalance spending to shift resources from primary education to pre-primary and secondary education. • Analyze burden of user fees for secondary education to inform elimination of financial barriers in the long-term, after ENCOVI 2014 data become available.
Improve the quality of educational spending across the board	• Improve the short-term sustainability of the flagship professional teacher training program (PADEP/D) through a substantial review of the budget allocations to the MINEDUC and the USAC. • Strengthen the MINEDUC's monitoring & evaluation capacity at local levels, especially the use of the information reported in the learning assessments and school report cards for policy purposes (in a systematic and regular way) and do an infrastructure census.	• Increase the quality of the teacher corps by improving the processes of recruitment, retention and teacher evaluation to attract and retain the most talented and motivated teachers. • Reduce compression of teachers' wages, by partly linking earnings to measures of student performance, promoting accountability, and ultimately increasing the attractiveness of the profession for people who value career and wage progression.

		• Increase long-term sustainability of the professional in-service teacher training program (PADEP/D) with sound financing and closer linkages with career progression of teachers.
Increase the equity and efficiency of spending	• Rebalance per-student financing across income groups to ensure more equitable spending across regions. • Pilot and evaluate pro-poor programs and/or incentives to overcome financial barriers to enter and remain in secondary education.	• Significantly update the Infrastructure Master Plan 2005 and develop a strategic plan to address infrastructure/capacity gaps to significantly increase access, especially for secondary education in rural areas. • Promote greater access of the most vulnerable to higher quality tertiary education institutions (e.g. pilot and test scholarships/vouchers to other institutions – public or private). • Analyze the main drivers of falling primary enrollment over time, as new census and ENCOVI 2014 data become available.
Health		
Expand access, prioritizing cost effective preventive interventions	• MOH to identify and implement a transitional service delivery mechanism in areas that are not yet covered by the new Primary Health Care Model	• Develop, cost, and implement a coordinated phased strategy to improve access to health and nutrition services to progressively reach poor, rural, indigenous areas.
Improve the level, quality and efficiency of spending	• The MOF and MOH work together to identify and address as soon as possible the key factors that delay funding flows from central to local levels. • The MOF could also consider increasing spending ceilings in sectors that perform better based on clear and transparent criteria. • Prepare costed operational plans for the 2016-2020 nutrition and primary care strategies and reallocate more resources to health to finance them.	• Develop a health financing strategy to mobilize more funding for health. MOH and MOF could consider using new funding sources such as taxes in other sectors (e.g. other countries have used taxes on mobile phone companies, pharmaceuticals, etc. for health) • Prepare and implement a costed action plan to strengthen pharmaceutical management and develop an integrated public policy on medicines.

	• Improve health sector operational plans so there are clear links from budgets and inputs, through activities and products, to results. • Amend procurement law loophole to prevent suppliers who are awarded contracts but do not deliver on time under the Open Contract Mechanism from being allowed to bid for the same lots after Health Areas and Hospitals obtain the MOF's clearance to purchase outside negotiated prices. • Adopt standardized technical specifications and common essential drugs list for public entities to improve coordination of procurement and gain economies of scale.	
Implement human resource management strategies to better address inequities and improve results	• Explore re-negotiating the Collective Pact which is not affordable. In its place, MOH could consider offering long term contracts in lieu of annual ones and provide non-monetary incentives or financial ones that are within its budget such as public recognition and special training opportunities • Develop a detailed staff inventory and strengthen the MOH human resource (HR) data base, use it more strategically to improve human resource management.	• Develop, cost, and implement an HR strategy that attracts and retains health workers, and that also improves health personnel distribution throughout the country. For example, consider reclassifying professional nurses to make their salaries commensurate with their qualifications and functions; and identify and address the main factors behind high dropout rates in nursing schools.
Social Protection		
Improve coverage and generosity of social security	• Revise targeting of social pension to ensure it benefits those most in need.	• Revise the PAYG system to cover deficit gaps and ensure sustainability.
Revise CCT to maximize its effectiveness	• Stop coverage expansion and stabilize payments by ensuring adequate budget allocations, and improve processes so that households receive transfers on time.	• Review benefit levels and conditionalities of CCT. • Reform utility and transport subsidies, ideally phasing them

	• Restrict coverage to the extreme poor.	down and reallocating available fiscal space to the CCT.
Revise funding mechanism for ALMPs and employment services	• Explore ways to increase allocation of resources to training interventions. • Ensure more presence of employment services in major urban centers.	• Revise funding mechanism for INTECAP. • Review mandate of MINTRAB to concentrate on provision of core employment services (as opposed to executing social assistance programs like social pension, which should migrate to MIDES).
RUU-N as main coordinating SPL instrument, and ensure efficiency	• Complete RUU-N within MIDES through agreements among remaining institutions for database sharing. • Revise targeting formula for interventions.	• Mandate use of RUU-N for all social protection interventions. • Tie funding to mandated use of RUU-N.

Appendix 2: Household Surveys databases– Source and definition of variables

Countries	Period	Household Surveys	Education	Social Protection	Labor	Health
Costa Rica	2007-2014	Encuesta de Hogares de Propositos Multiples (EHPM) 2007-2009. Encuesta Nacional de Hogares (ENAHO) 2010-2014. Encuesta Nacional de Salud en Costa Rica (ENSA-2006). Encuesta de Ingresos y Gastos (ENIGH) 2012-2013.	EHPM, ENAHO	EHPM, ENAHO	EHPM, ENAHO	ENSA, ENIGH
El Salvador	2007-2013	Encuesta de Hogares de propositos multiples (EHPM) 2007-2013	EHPM	EHPM	EHPM	EHPM
Guatemala	2006, 2011, 2014	Encuesta nacional de condiciones de vida ENCOVI 2006, 2011, and 2014	ENCOVI	ENCOVI	ENCOVI	ENCOVI
Honduras	2007-2013	Encuesta Permanente de Hogares de Propositos Multiples (EPHPM) 2007-2013. Demographic and Health Survey (DHS) 2011-2012.	EHPM	EHPM	EHPM	DHS
Nicaragua	2005, 2009, 2014	Encuesta Nacional de Hogares sobre medicion de nivel de vida EMNNV 2005, 2009, and 2014	EMNV	EMNV	EMNV	EMNV
Panama	2007-2013	Encuesta de Hogares (ECH) 2007-2009. Encuesta de Mercado laboral (EML) 2010-2013. Encuesta Nacional de Niveles de Vida (ENV) 2008	ECH, EML	ECH, EML	ECH, EML	ENV
Methodology: Classification ensures consistency across countries.						
Education	Classification ensures consistency across educational levels: primary education 6 years and for secondary education 6 years.					
Social Protection	Follows World Bank - Aspire classification.					
Labor	Follows ILO classification					
Health	Follows ADePT - Health classifications.					
Results: Most tables are produced using the ADePT software - Social Protection, Labor, Education and Health.						

Appendix 3: Social spending databases– Source and definition of variables

Social Spending: Corresponds to budget executed by centralized and decentralized entities.
Period: 2007-2014
Coverage: Central government + Subnational level. All public sectors
Data: Total Spending by levels of government, decentralized entities, funding sources and at some times at program level.
Classification: Follows IMF classification but with some modification on education and Social Protection.
Health: includes expenditure on services provided to individual persons and services provided on a collective basis

CA classification	IMF Classification	
Medical products, appliances and equipment	7071	Medical products, appliances and equipment
Outpatient services	7072	Outpatient services
Hospital services	7073	Hospital services
Public health services	7074	Public health services
R & D Health	7075	R & D Health
Health not elsewhere classified (n.e.c)	7076	Health n.e.c

Education: includes expenditure on services provided to individual pupils and students and expenditure on services provided on a collective basis. Breakdown of education is based upon the level categories of the 1997 International Standard Classification of Education (ISCED-97) of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

CA classification	IMF Classification	
Pre-primary	7091	Pre-primary and primary education
Secondary	7092	Secondary education
Tertiary	7093	Postsecondary non-tertiary education
	7094	Tertiary education
Other	7095	Education not definable by level
	7096	Subsidiary services to education
	7097	R&D education
	7098	Eduction n.e.c

Excludes: teacher's pensions. Includes: Scholarships
Modifications: Excludes the amount spent on training institutions.
Social Protection: includes expenditure on services and transfers provided to individual persons and households and expenditure on services provided on a collective basis

CA classification	IMF Classification	
Sickness and disability	7101	Sickness and disability
Social Security	7102	Old age
Cash Transfers	7104	Family and children
Other Social Assistance	7107	Social exclusion n.e.c

	7108	R&D Social Protection
	7109	Social protection n.e.c
	7103	Survivors
Active labor Market Programs		Amount spent on training institution + labor affairs
Subsidies		Energy, gas, water.
Modification: Excludes: 7105 Unemployment and 7106 Housing. Includes subsidies and Active labor Market spending.		

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