

# FISCAL POLICY FOR SUSTAINABLE DEVELOPMENT

## NEPAL – PUBLIC EXPENDITURE REVIEW

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# EXECUTIVE SUMMARY

**Nepal's new federal fiscal system is evolving.** Nepal passed a new constitution in 2015, which transformed the country from a centralized to a federal republic. The new system centers service delivery around 753 newly created local governments and 7 provinces which have gradually started assuming expenditure responsibilities. Subnational governments are predominantly financed through multiple intergovernmental transfers and revenue sharing, which account for between 8 and 9 percent of GDP per year. Nepal's system of fiscal transfers is relatively transparent, rule-based, and predictable.

**The implementation of federalism has increased government expenditure and debt levels.** Nepal has historically maintained debt levels below 30 percent of GDP. Budget deficits have also been below those observed in comparable countries, averaging only 1.1 percent of GDP between FY00 and FY19.<sup>1</sup> The initiation of intergovernmental transfers in FY18 has led to a structural break, elevating general government expenditure by 4.5 percentage points of GDP and raising the fiscal deficit to 5.8 percent of GDP in the same year.

**COVID-19 has adversely impacted revenue and amplified expenditure needs.** The global pandemic had a double impact on the fiscal deficit, triggering a 1.2 percentage points of GDP drop in tax revenue between FY19 and FY20 and exacerbating expenditure needs for relief and recovery, including for vaccines. As a result, the shock has exacerbated fiscal pressure from federalism and is expected to increase debt to 49.8 percent of GDP by FY24. At the same time, the crisis highlighted that the federal system needs to be strengthened, as weak coordination across levels of government and inadequate subnational technical capacity limited the COVID response at the provincial and local levels.

**On top of the rising fiscal pressure, Nepal has substantial unmet spending needs – especially for infrastructure.** Estimates from the World Bank's 2019 *Infrastructure Sector Assessment* highlight that Nepal needs to invest 10–15 percent of GDP annually over the decade to close infrastructure gaps. Much of this investment will need to be planned and executed by the public sector, yet public capital spending stood at only 6.3 percent of GDP in FY19. Weak planning and investment management processes prevent a closure of this gap and have resulted in persistently low capital budget execution rates (75 percent on average between FY15 and FY19). Federalism has amplified this challenge, as local governments are now responsible for many infrastructure investments but were only able to execute 80 percent of budgeted spending in FY19.

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<sup>1</sup> FY refers to the Nepales fiscal year, which begins and ends in mid-July.

**Nepal also faces rising environmental risks.** According to the *Global Climate Risk Index 2021* Nepal is one of the ten countries in the world most affected by extreme weather events, whose frequency is expected to increase as climate change progresses. In addition, severe indoor and outdoor air pollution have caused considerable health and economic losses. This has profound implications for fiscal policy, as tax policy and fiscal incentives are central to mitigating the emissions that drive climate change and air pollution.

**To systematically address these challenges, Nepal is initiating a shift to a green, resilient, and inclusive development (GRID) path.** Recognizing the interrelation between people, the environment and the economy, Nepal has adopted the GRID approach in 2021. This involves a shift to a deliberate longer-term recovery strategy which prioritizes sustainable investments, adaptation to risks, and efforts to enhance inclusion. This Public Expenditure Review explores how Nepal can realize the potential of federalism and support a GRID approach in the aftermath of COVID-19. It does so by posing four policy questions:<sup>2</sup>

1. How has federalism impacted expenditure so far, and what must be done to optimize the intergovernmental framework to enable it to support inclusive growth (Chapter 2)?
2. What revenue measures are needed to narrow the fiscal deficit and enhance fiscal resilience (Chapter 3)?
3. Which tax and expenditure reforms can support green growth by mitigating emissions that cause pollution and climate change (Chapter 4)?
4. How can planning and budgeting be improved to support inclusive growth and close infrastructure gaps (Chapter 5)?

## HOW HAS FEDERALISM IMPACTED EXPENDITURE?

**While substantial resources are now devolved to subnationals, direct spending by the federal government has not decreased one-to-one.** In FY16 direct federal spending (i.e. expenditure excluding intergovernmental transfers) stood at 18.9 percent of GDP, close to the 18.4 percent recorded in FY20. In FY20, however, the federal government also spent about 9 percent of GDP on intergovernmental transfers on top of its direct spending, leading to a substantial increase in overall spending. A one-to-one decrease in federal direct spending has not yet been realized, partly because the transfer of spending responsibility for concurrent functions

has not yet been completely implemented. As a result, the federal government continues to finance select devolved and shared responsibilities, including benefits for subnational civil servants, social protection programs and infrastructure development.

**Federal government spending on health and education has decreased and been replaced by capital spending on economic affairs.** The devolution of responsibilities in health and education has reduced federal spending on these sectors between FY15 and FY19: from 3.4 to 1.2 percent of GDP in health and from 1.2 to 1 percent of GDP in education. This decrease was offset by higher spending on economic affairs (9.9 percent of GDP in FY19, about double the average in FY13–FY15), which comprises spending on projects in as well as subsidies, grants and loans to the agriculture, industry and services sectors. The observed increase in economic affairs spending largely reflects capital spending and infrastructure investments.

**Subnational governments have only partially compensated for the federal reduction in health and education spending, and only to the extent that conditional grants mandate them to.** Provinces spent 0.1 percent of GDP each for health, education, and social protection in FY 19. Local governments spent an aggregate 2.1, 0.5 and 0.4 percent of GDP on education, health, and social protection in the same year. This spending was, however, exclusively financed through conditional grants, as local governments opted to use untied resources from equalization grants and revenue sharing for infrastructure and local administration spending instead. This spending pattern does not follow the constitutional designation of conditional grants, which are not meant to act as an exclusive source of financing but instead should enable subnational spending to reach national norms and standards.

**The observed shift in spending is not based on achievable expenditure norms and lacks some clarity on the purpose of different intergovernmental transfers.** In Nepal service delivery standards are set by line ministries to reflect longer-term development goals rather than achievable near-term outcomes. This practice has generated a significant gap between the resources available to subnational governments and the official articulation of service delivery expectations. A focus on achievable results is further undermined by a conditional grant system that prescribes detailed recurrent expenditure patterns, even though administrative costs incurred by subnationals should – according to the constitution and the Intergovernmental Fiscal Arrangements Act<sup>3</sup> - be financed by untied resources. This has resulted in an equilibrium in which subnational governments consider

<sup>2</sup> An analysis of sectoral spending efficiency is covered in the World Bank's Public Expenditure Review for the Human Development Sectors which has been prepared in parallel to this report.

<sup>3</sup> Intergovernmental Fiscal Arrangement Act 2017, Chapter 7, section 21 (4).

resources from revenue sharing and fiscal equalization grants as funding sources for exclusive expenditure responsibilities, whereas conditional grants are seen as the financing source for concurrent sectoral functions.

## WHAT REVENUE MEASURES CAN HELP NARROW THE FISCAL DEFICIT?

**Nepal's revenue performance has historically been strong due to substantial tax collection on imports.** In FY19, Nepal collected tax revenue equivalent to 19.1 percent of GDP, which is significantly above levels achieved by its regional and global peers. Almost half of this —47 percent of total revenue in FY19—is levied on imports and collected at the border through the VAT, excise, and customs duties. The import dependence of revenues is a direct result of Nepal's growth model, in which remittance inflows from out-migrating workers are used to finance consumption. As Nepal is a landlocked country, this generates a large import bill – 41.5 percent of GDP in FY19 – which results in a large and easily enforceable tax base.

**By contrast, domestic VAT collection is constrained by exemptions.** Exemptions granted on a wide range of goods and services have narrowed the domestic VAT base and cost about 37 percent of VAT revenue each year. Estimates obtained for this report also highlight that Nepal's exemptions are not fully effective at reducing the impact of the VAT on the poor. Nepal's VAT system also includes comparatively large firms due to a high registration threshold and the absence of a presumptive tax scheme that levies VAT on turnover for smaller firms.

**The corporate income tax system features multiple costly incentives.** Nepal's corporate income tax system allows for multiple tax rates that range from 0 to 30 percent, depending on the industry, the taxpayer's geographic location, and the number of workers employed. The multitude of corporate income tax incentives reflects the government's desire to direct investment into selected industries or more remote locations, and to stimulate labor-intensive manufacturing in the country. The cost of these incentives is estimated at about 3.1 percent of GDP. At the same time, the effectiveness of these incentives in achieving their non-revenue objectives has yet to be evaluated.

**The import duty structure adversely impacts job creation and discourages exports.** Nepal has a simple average effectively applied tariff rate of 10.2 percent, placing it among the world's top quartile of most-protected countries. Such high tariffs increase input prices and can encourage firms to use less productive inputs. The customs tariff schedule also follows a cascading structure that places higher tariff rates on consumer products and lower rates on machinery, raw materials, and intermediates used in production. The higher

prices on consumer products incentivizes firms to produce for domestic consumption and discourages exports. Input tariffs also show an anti-job creation bias, as they impose a larger burden on labor intensive sectors, including agribusiness, food, and textiles. These factors limit the extent to which growth is inclusive.

## HOW CAN FISCAL POLICY ADDRESS ENVIRONMENTAL ISSUES?

**Biomass combustion is the primary contributor to greenhouse gas emissions and air pollution but is neither taxed nor regulated.** Biomass—which includes fuelwood, dung, biogas, and agricultural waste—accounted for 71 percent of total energy consumption in 2018, as more than 70 percent of the population remains reliant on traditional cooking and heating technologies. This practice is responsible for 90 percent of emissions across the country and recent analysis shows this is the main contributor to pollution in the Kathmandu Valley. It also contributes to indoor air pollution that elevates mortality risks, especially for children. On aggregate, biomass combustion is estimated to generate external costs of almost 10 percent of GDP per year. Despite these significant externalities, it is neither taxed nor regulated, as most traditional energy sources are not traded through the formal sector.

**By contrast, emissions from the transport sector are more effectively internalized by Nepal's tax system.** Petroleum products accounted for 19 percent of energy consumption in 2018 and are mostly used in the transport sector. Their combustion is associated with significant carbon dioxide and particulate matter emissions, which generate annual external costs of 2.2 percent of GDP for diesel and 0.9 percent for petrol. Petroleum products are subject to a range of taxes, including customs and excise duties, VAT, a pollution tax, an infrastructure tax, and a road maintenance tax. As a result, taxes on petrol result in purchasing prices that internalize most of the externalities generated by its combustion, whereas taxes on diesel internalize about 70 percent of externalities.

**Electricity generated from hydropower presents an alternative to fossil fuel combustion by households and in the transport sector.** Since 2017, Nepal's electricity sector has undergone a remarkable transformation by expanding generation capacity and establishing new transmission lines to India. Domestic generation is focused predominantly on hydro sources, gifting Nepal with one of the cleanest electric power systems in the world. Power generation is also fiscally sustainable and does not depend on public subsidies for cost recovery. With plans to expand hydro-electric capacity by 4 Gigawatts in the coming years, fiscal incentives to facilitate a green transformation can focus on helping households and the transport sector transition from biomass and petrol to electricity.

## HOW CAN PUBLIC INFRASTRUCTURE SPENDING BE IMPROVED?

**Nepal's longer-term expenditure plans differ significantly from annual budgets.** Nepal's spending plans are outlined in three strategic documents, including Five-Year Plans, three-year Medium-Term Expenditure Frameworks (MTEFs) and annual budgets. These plans are consistently overly optimistic: capital budget allocations in annual budgets and MTEFs are significantly lower than foreseen in Five-Year Plans and decrease in consecutive MTEFs. In addition, actual capital spending only accounts for about 75 percent of budgeted expenditure. Substantial mid-year virements that result in expenditure reallocations between line items also increase budget variability.

**Capital project preparation and selection could be further strengthened through standardized procedures.**

While Nepal has a comprehensive set of guidelines in place to guide capital project preparation, the extent to which they are applied in practice varies. For instance, in many cases project appraisals do not take place and are not tailored to differing methodological requirements across sectors and project scales, resulting in a lack of implementable projects. Despite these shortcomings, budgets are often allocated to projects for which no detailed cost estimates, timeline

information, procurement approaches, and other supporting documentation is available.

**Challenges with procurement and land acquisition impact project implementation.**

About 60 percent of Nepal's budget is implemented through procurement, but this is typically not guided by detailed plans. Most procurement decisions are based on identifying the lowest bidder, which is not a sufficient basis for choosing the most qualified contractor. This leads to delays in project implementation and a sub-par quality of infrastructure. Land acquisition is particularly challenging, as local communities increasingly raise land prices once major government projects are announced, forcing the public sector to pay a significant premium, and contributing to project delays.

**The new "National Project Bank (NPB)" presents a unique opportunity to improve capital budget execution.**

The NPB is a planned repository of projects that have been selected based on identification, appraisal, selection and prioritization guidelines and are ready for federal government implementation. It follows a gateway framework in which progression to the next stage depends on the project achieving a predefined level of readiness. Prioritization occurs according to a transparent project ranking matrix that considers contribution to growth and to the achievement of SDGs, among others. Once it is fully operational, projects will only be included in the MTEF and be eligible for budget funding once they have passed through the NPB process.

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## TOP-5 PRIORITIES IDENTIFIED IN THE REPORT

**1. Clarifying the role of conditional and fiscal equalization grants:**

Highlighting that fiscal equalization grants should co-fund all the constitutional mandates of subnational governments and transitioning conditional grants towards sectoral block grants with limited earmarking can help subnational governments fully assume their service delivery responsibility.

**2. Reviewing and reducing VAT exemptions:**

Targeting VAT exemptions exclusively at the consumption baskets of the bottom-40 percent can increase VAT revenue by 2 percent and reduce the poverty rate by 0.2 percentage points.

**3. Reducing the adverse economic impacts of import duties:**

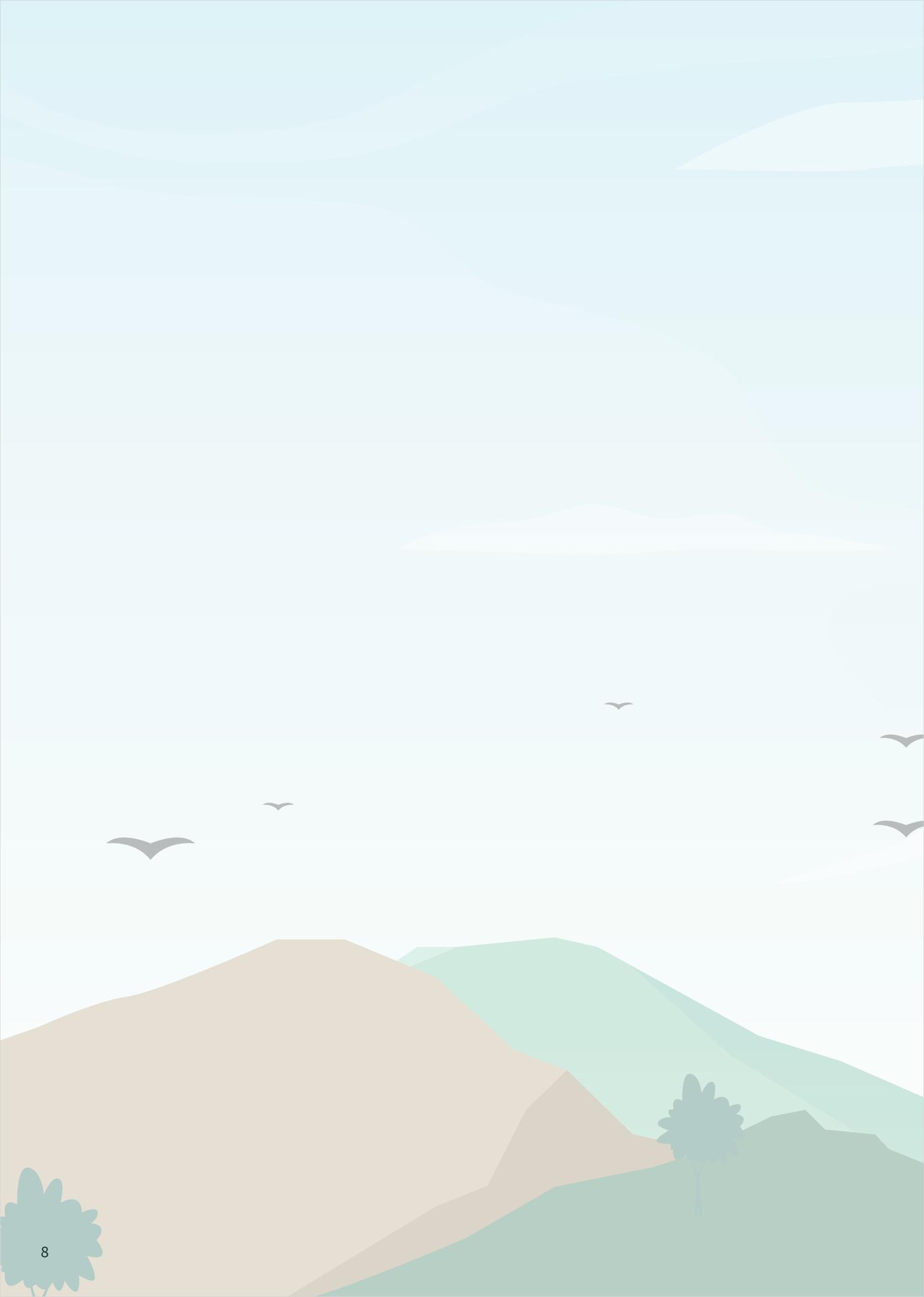
Reducing tariff cascading – e.g. through a two-slab system that applies a 5 percent duty on intermediates, raw materials and capital goods and a 10 percent duty on everything else, if accompanied by complementary reforms – will encourage exports, decrease firms' input costs, and encourage job creation.

**4. Facilitating an energy transition in the household sector:**

Subsidizing electric cookstoves and other substitutes for biomass combustion while continuing to invest in electricity infrastructure can reduce greenhouse gas emissions and lower air pollution.

**5. Rolling out the National Project Bank:**

Following transparent and consistent criteria for project selection and preparation can ensure that only projects that are ready for implementation and aligned with national priorities are implemented.



**CHAPTER 1**

# Macro-fiscal context



*Prior to COVID-19, Nepal was on a path of sustained growth and fiscal stability. However, the pandemic has dealt Nepal's economy a heavy blow, increasing poverty and fiscal pressure and decelerating growth. The chapter emphasizes that achieving green, resilient, and inclusive development (GRID) in the aftermath of COVID will require supporting domestic job creation, enhancing fiscal resilience, investing in public services and infrastructure, and mitigating climate change and air pollution.*

## 1.1. INTRODUCTION

**Nepal has achieved decent growth rates and rapid poverty reduction over the past two decades.** Gross national income per capita more than quadrupled from FY01 to reach \$1,090 in FY19, allowing the country to attain lower-middle-income country (LMIC) status.<sup>4</sup> Correspondingly, poverty fell from 46 percent in 1996 to 15 percent in 2010,<sup>5</sup> one of the fastest reductions in the South Asia region, and is estimated to have declined further up to 2019.<sup>6</sup>

**COVID-19 is causing significant human and economic hardship and threatens to reverse gains in poverty reduction.** Recurring waves of increasing infections and associated lockdowns have significantly impacted Nepalis and the Nepalese economy. The economic shock imposed by COVID-19 has disproportionately affected workers engaged in subsistence activities, who make up over half of the employed population.<sup>7</sup> International border restrictions and economic downturns abroad have also affected millions

<sup>4</sup> The lower-middle-income category refers to countries with \$1,036–4,045 per capita gross national income (current dollars, Atlas method). Nepal was reclassified as an LMIC on July 1, 2020 based on FY19 data.

<sup>5</sup> Based on the international poverty line of \$1.90 per day (World Bank 2016).

<sup>6</sup> The poverty headcount rate at the international line (\$1.90/day) is estimated at 8.2 percent in FY19.

<sup>7</sup> Data based on Nepal Labor Force Survey 2018 (see World Bank 2020b).

of migrants, forcing many to return home. This risks impacting remittances inflows, which were an important driver of poverty reduction in the past and drives up unemployment. During lockdowns, COVID-19 is also contributing to price rises for essential goods, which adversely impact the poor. As a result, one-third of the population is at risk of falling back into extreme poverty (World Bank 2020b).

**The pandemic is not the only challenge faced by Nepal.** Despite progress in recent years, a significant share of Nepal's population has remained in extreme poverty, domestic job creation was limited, and pockets of inequality have emerged. Nepal is also highly vulnerable to climate change and environmental degradation, both of which are expected to disproportionately affect the poor. Institutional challenges related to an ambitious transition to a federal system and frequent political turnover constrain service delivery and infrastructure investments, which are critical to alleviate poverty, reduce vulnerabilities and support inclusive and sustainable growth. Nepal is also facing increased fiscal pressure, which further limits the Government's ability to support the poor.

**To systematically address these challenges, Nepal is initiating a shift to a green, resilient, and inclusive development (GRID) path.** Recognizing that a recovery

from COVID-19, a sustainable reduction of poverty and inequality, and the mitigation of and adaption to climate change and environmental degradation are inter-related challenges, Nepal adopted the GRID approach in 2021. This involves a shift to a deliberate longer-term recovery strategy that considers the interdependence between people, the environment and the economy, and prioritizes the sustainability of public and private sector-led development initiatives (green), adaptation to risks and uncertainties (resilient), and a reduction of disparities in opportunities and outcomes (inclusive). The GRID framework thus aims to achieve lasting economic growth without aggravating inequality and compromising environmental sustainability.

**This report outlines critical areas in which fiscal policy can be used to support the effective execution of the GRID agenda.** This chapter provides an overview of critical policy challenges focusing on the three components of the GRID agenda. Section 1.2 focuses on inclusion and emphasizes the importance of domestic job creation and enhanced public spending to enhance inclusive growth. Section 1.3 discusses risks to fiscal resilience. Section 1.4 focuses on costs to sustainability arising from climate change and air pollution. The chapter concludes with a discussion of how a fiscal policy reform agenda can support the transition to GRID.

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## 1.2. BARRIERS TO INCLUSIVE GROWTH REMAIN

### 1.2.1. Nepal has historically grown at a respectable pace, but has generated only few domestic jobs

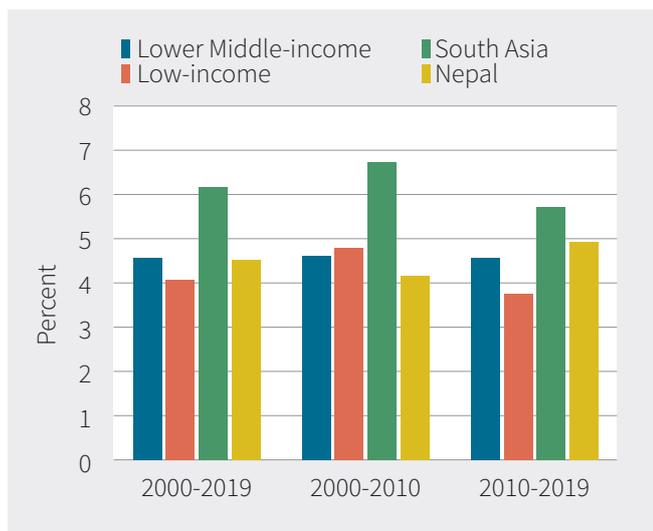
**Nepal's economy has grown at a respectable pace over the last two decades.** On average, real gross domestic product (GDP) expanded by 4.1 percent a year between FY00 and FY19, primarily driven by private consumption and low value-added services. While the pace of the country's growth surpassed other low-income countries (LICs) and was on par with LMICs, it lagged the rest of the South Asia region, which grew 6.2 percent on average over the same period (Figure 1.1). Growth in Nepal has also

been more volatile, dipping significantly in FY02, FY11, and FY16 (Figure 1.2). Volatility is driven by periods of political uncertainty, vulnerability to natural disasters and a high dependence on a single trading partner (India).<sup>8</sup>

**Growth had started to pick up in the years leading up to the COVID-19 pandemic and, as political turnover subsided with the landmark 2015 constitution, Nepal enjoyed a brief "peace dividend".** Between FY17 and FY19, output growth averaged 7.8 percent, the strongest pace in decades. Higher remittance inflows and a surge in tourist arrivals translated into higher growth in retail trade, real estate, transport, and hotel and restaurant services, while mostly favorable monsoons and increased

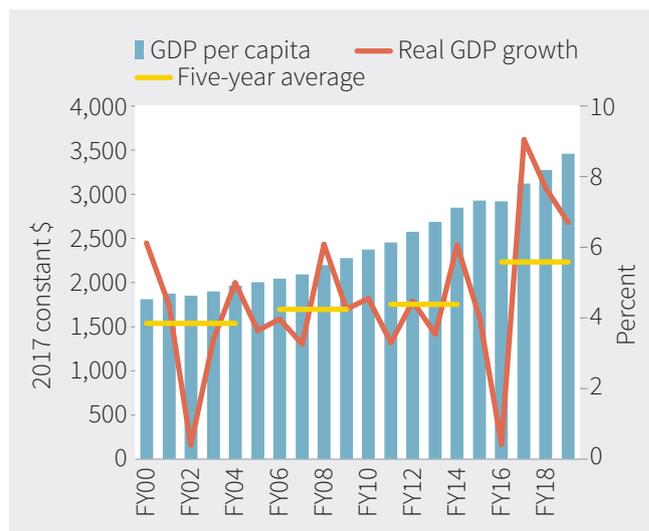
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<sup>8</sup> For instance, India's imposition of a trade embargo from September 2015 to January 2016 led to shortages of fuel, raw materials, and other commodities, nearly plunging the economy into a recession.



**Figure 1.1.** Real GDP growth in Nepal and in peer country groups

**Source:** World Bank staff calculations, based on data from IMF 2020b.



**Figure 1.2.** GDP per capita and real GDP growth in Nepal, FY00–FY19

**Source:** World Bank staff calculations, based on data from Ministry of Finance.

**Note:** GDP per capita is expressed as 2017 international \$ in PPP.

commercialization also supported above-average agricultural growth. More remittances supported private consumption growth, and a more reliable electricity supply, alongside greater political stability, led to an increase in private investments.

**Despite economic progress, domestic job creation has been slow.** In 2018, 93 percent of the 15.7 million workers employed in Nepal were in informal jobs and domestic growth has played only a limited role in poverty reduction (Ruppert Bulmer, Shrestha, and Marshalian, 2020). With limited opportunities at home, millions of Nepalese have migrated to the Gulf and other South and Southeast Asian countries since the mid-1990s. In FY96, approximately one in four Nepalese households received some form of remittance, increasing to one in three by FY04 and one in two by FY11 (World Bank 2016). The value of these remittances also increased over the period. By FY19, remittance inflows were equivalent to 22.8 percent of GDP, making Nepal one of the world’s top five remittance-receiving countries.<sup>9</sup> Remittances have propelled household consumption, raised real wages, and enabled households to invest more in health and education (World Bank 2017). They are estimated to account for one-third of the reduction in absolute poverty between FY96 and FY11 (World Bank 2016).<sup>10</sup>

**COVID-19 has impacted Nepal’s economic progress.**

Mobility restrictions that were imposed to curtail the spread of the virus significantly impacted all sectors of the economy. The effect was particularly felt in the services sector, which accounts for half the country’s output and which contracted by 3.6 percent in FY20 after tourism activities ceased in March, and transport, wholesale and retail trade activities declined sharply. Activity in manufacturing and construction also slowed significantly due to production input shortages, constrained labor mobility and market access problems, leading to a 4.2 percent contraction of the industrial sector. On the demand side, private consumption and total investment contracted, as remittance inflows plummeted by 3.4 percent in FY20 due to the suspension of labor approvals for foreign employment in March, and subsequent border closures. As a result, economic growth contracted by 2.1 percent in FY20.<sup>11</sup>

**1.2.2. Institutional gaps relating to the transition to federalism remain an obstacle to inclusive growth**

**Since FY18, Nepal has gone through a drastic overhaul of its political and fiscal system.** The 2015 constitution established 753 local governments (palikas) and seven

<sup>9</sup> World Bank remittance inflows data, April 2020. <https://www.worldbank.org/en/topic/migrationremittancesdiasporaissues/brief/migration-remittances-data>

<sup>10</sup> Although more recent data is not available, projected estimates by the Nepal’s Central Bureau of Statistics and the World Bank suggest that poverty continued to fall from 25.2 percent in FY11 to 8.2 percent of the population in FY19. It is likely that remittances played a key role in this ongoing decline.

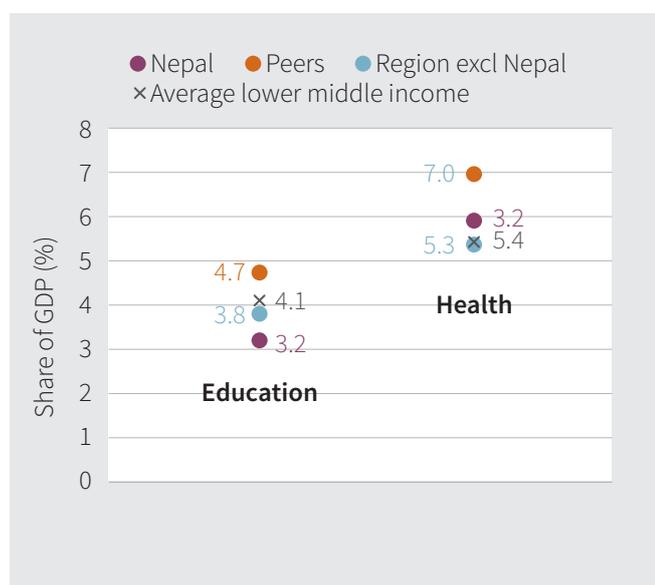
<sup>11</sup> For more details of the economic forecast, see World Bank (2020b and forthcoming).

provinces and initiated the shift from a unitary to a federal government. Palikas are tasked with the delivery of many services, including basic education, local health services, agricultural extension, water and sanitation, and local infrastructure. To finance service delivery, the constitution has allocated some tax bases with limited inter-jurisdictional spillovers to subnational governments and has entitled both provinces and palikas to 15 percent of domestic VAT and excise revenue. Nepal has further established a system of intergovernmental transfers which has been operational since FY18, including untied fiscal equalization grants (FEGs) and earmarked conditional grants (CGs).<sup>12</sup> Fiscal federalism is largely overseen by a newly created constitutional body known as the National Natural Resource and Finance Commission (NNRFC).

**Although efforts are underway to fully operationalize the new federal system, additional steps remain until its full potential can be realized.** Effective spending on social services – especially health and education – is critical to unlock the potential of human capital, which, in turn, is a precondition for inclusive growth. However, while federal spending on health and education decreased significantly as spending responsibilities were devolved,

provincial and local governments (PLGs) were slow to compensate for this with an increase in spending from discretionary sources. Instead, they opted to fund social sector spending exclusively through conditional grants, reserving untied resources for general administration and economic affairs spending. This has left social sectors underfunded and prevents the closure of existing spending gaps (Figure 1.3).

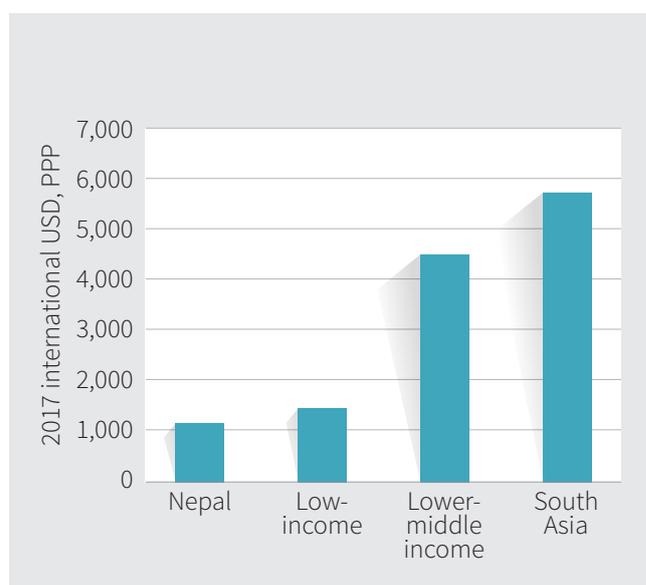
**Nepal also lags many of its peers in infrastructure quality and quantity indices.** Nepal ranks at the bottom of the *2019 Global Competitiveness Index* rankings (Schwab 2019) for quality of road infrastructure (120 out of 141 economies), efficiency of air transport services (131/141), reliability of water supply (125/141), and adopting information and communications technology (ICT) (109/141). At \$1,172 per person, Nepal’s level of public capital stock falls far below that of LICs, LIMCs, and other regional peers (Figure 1.4). Closing this gap is constrained by delays in public capital projects and persistent underspending of the capital budget, which are expected to deteriorate further as responsibilities for infrastructure spending are devolved to PLGs.



**Figure 1.3.** Nepal’s public spending on education and health, compared to its peers, FY18

**Source:** World Bank staff calculations, based on data from IMF 2020a.

**Note:** GDP is expressed as 2017 international \$ in PPP.



**Figure 1.4.** Per capita public capital stock in Nepal and peer country groups (2017)

**Source:** Based on UNESCO Statistics and World Bank WDI.

**Note:** Averages are unweighted. Peers include Kyrgyz Republic, Tajikistan, Pakistan, and Ethiopia.

<sup>12</sup> The main types of grants are fiscal equalization and conditional grants. Transfers are also made through matching and special grants, albeit at a significantly smaller scale.

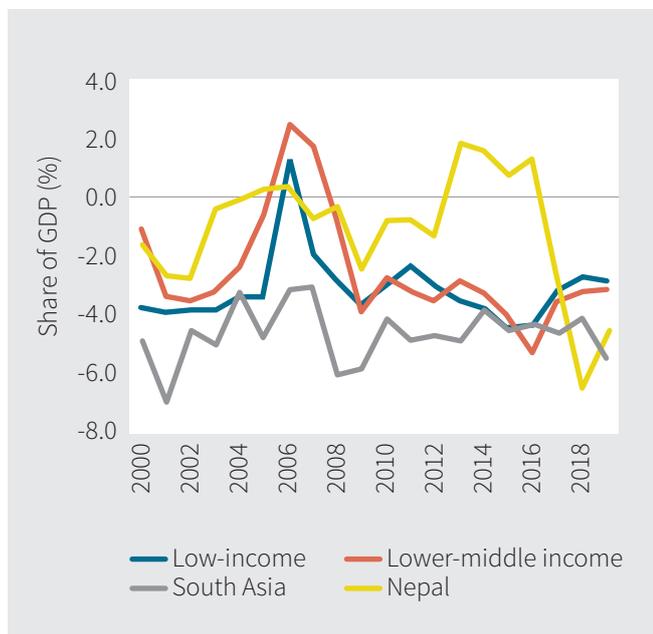
### 1.3. FISCAL RESILIENCE HINGES ON AN EXPANSION OF THE RESOURCE ENVELOPE

Over the last two decades, Nepal has generally been more fiscally prudent than the average South Asian country, as budget deficits only averaged 1.1 percent of GDP between FY00 and FY19 (Figure 1.5). Public debt has also been maintained at low levels. Between FY03 and FY15, total public debt fell by 35 percentage points to 25.6 percent of GDP, and only gradually increased to 27.2 percent in FY19. Nepal’s debt levels are the second lowest in South Asia (behind Afghanistan) and far below the median of LICs and LMICs (Figure 1.6). Nepal also owes the bulk of this debt to multilateral, rather than bilateral, creditors. The most recent *Joint Bank-Fund Debt Sustainability Analysis* showed that Nepal’s risk of debt distress is low for both external and overall public debt.

**Robust revenue collections and a tendency to underspend have helped keep fiscal deficits low.** At 21.8 percent of GDP in FY19, Nepal’s revenue collections are higher than the average South Asian country (20.1

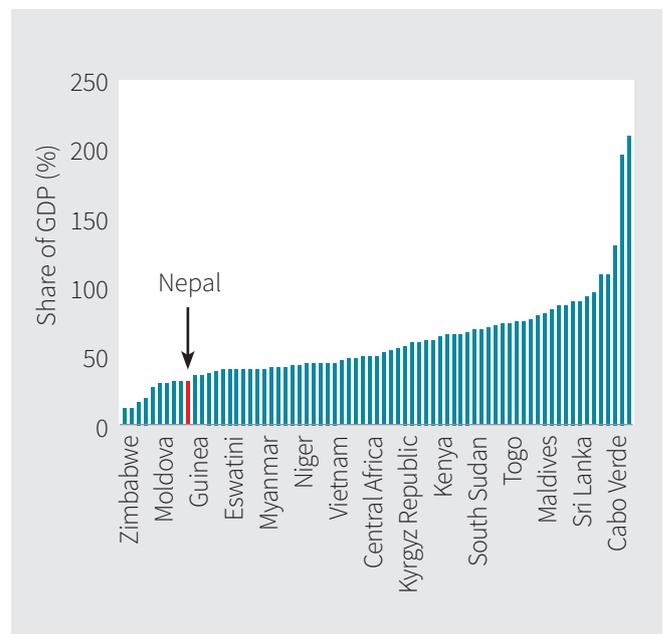
percent) and the average LIC (15.5 percent).<sup>13</sup> Much of this is due to its success in increasing tax revenues, which reached 19.1 percent of GDP in FY19. Almost half of tax revenues come from trade-related activity: customs and other import duties account for 19 percent of revenue, while total collection from import—including from excise and value-added tax (VAT) levied on them—accounts for almost half. At the same time, spending is constrained by weak budget execution: between FY13 and FY19, Nepal spent on average only 84 percent of its budget. Underspending is particularly acute on the capital side; the federal government’s average capital budget execution rate between FY15 and FY19 was less than 75 percent. This is less than the global average of 90 percent and the LIC average of 86 percent (De Renzio and Cho 2020).

**The transition to federalism and COVID-19 have widened the deficit and created fiscal gaps.** As subnational service delivery is financed predominantly



**Figure 1.5.** Fiscal balance in Nepal and peer country groups, FY00–FY19

**Source:** World Bank staff calculations, based on data from IMF 2020b.



**Figure 1.6.** Gross general government debt in Nepal and other countries, FY19

**Source:** World Bank staff calculations, based on data from IMF 2020b.

<sup>13</sup> Based on IMF 2020b.

## Box 1.1

### Sources of Fiscal Risks in Nepal

Fiscal risks stem from the realization of contingent liabilities in the following areas:

- I. **Guarantees.** Nepal's officially reported public debt does not include loan guarantees. To date, Nepal has issued two guarantees to the Nepal Airline Corporation, which together amount to 0.6 percent of GDP.
- II. **Subnational governments.** While PLGs can raise domestic debt within the limits set by the NNRFC, they have not yet started borrowing. If the PLGs finance their growing fiscal expenditures with domestic borrowing in the future, the domestic debt may become a contingent liability to the federal government.
- III. **State-Owned Enterprises (SOEs).** In Nepal, SOE debt is mostly on-lent by the federal government and is accounted for as part of the federal government debt stock, creating credit risks if the receiving SOE defaults. Outstanding debt of non-financial SOEs stood at 6.5 percent of GDP at the end of FY20, 70 percent of which was external. In addition, loss making SOEs may incur significant fiscal costs if the GoN must settle their liabilities in the future. In FY19, 40 percent of active SOEs incurred net losses or negative operating balances and more than half of them have net accumulated losses.
- IV. **PPPs.** Currently, there are 39 active PPP projects with a total investment of US\$2.4 billion, accounting for about 12.7 percent of GDP. About 90 percent of these are hydropower projects. The realization of government revenue guarantees to private contractors, cost overruns, exchange rate risks, and the government's obligation to compensate investors if projects are terminated prematurely may pose significant fiscal costs to the government. However, since PPP contracts are not publicly available, the government's fiscal commitments and contingent liabilities from the current PPP portfolio are unknown and cannot be quantified.
- V. **Climate change and natural disasters.** The fiscal costs of natural disasters and climate change in Nepal are substantial: the cumulative estimated economic costs caused by disaster events from 2008-2017, including the 2015 earthquake and the 2017 August flood, are more than 37 percent of GDP. Considering this figure as the estimated maximum loss to the government related to natural disasters and climate change, it is the largest fiscal risk identified for Nepal.

through federal grants and revenue sharing, the commencement of these transfers meant that the government's total expenditure jumped by 4.5 percentage points of GDP between FY17 and FY18, far more than the 0.8 percentage point increase in revenues and grants

over the period. As a result, the fiscal deficit more than doubled from 2.7 to 5.8 percent of GDP over the period. COVID-19 added to these fiscal pressures as tax revenue decreased by 5 percent in FY20. Trade-related taxes, including VAT, excise, custom duties, and taxes on exports,

were especially hard hit.<sup>14</sup> This fiscal pressure is expected to persist and the fiscal deficit is projected to stay elevated between 6 and 8 percent of GDP in the medium-term.

**Nepal needs new revenue sources to maintain fiscal resilience.** Nepal's reliance on remittances means that a significant share of value added from labor is produced abroad, which limits domestic revenue potential. By contrast, the country's large import bill (41.5 percent of GDP in FY19) results in a large and relatively easily

enforceable tax base, which the country has exploited successfully. This has allowed Nepal to keep the deficit in check in the past. However, persistently high spending needs during and beyond the federalism transition mean that a reliance on import taxes alone is unlikely to be sufficient going forward. A return to fiscal resilience will thus require reforms to reduce tax exemptions for domestic taxes (especially VAT and income taxes) and strengthen PLG own-source revenues.

## 1.4 Climate change and air pollution pose risks to green growth

**Climate change, natural disasters and other weather-related shocks are recurring sources of risk for Nepal.**

The *Global Climate Risk Index 2021* ranks Nepal 10<sup>th</sup> among the countries most affected by extreme weather events (Eckstein, Künzel, and Schäfer 2021). Every year, Nepal suffers an average of 500 natural hazard events, resulting in loss of lives, damage to physical infrastructure and property, mass displacement and disrupted livelihoods (Ministry of Home Affairs 2016). Floods and landslides caused by monsoon rains or low-pressure systems are the most common hazards, along with droughts and earthquakes.

**These hazard events adversely affect fiscal outturns.**

On the revenue side, natural disasters and other climate-related shocks disrupt tax collection and indirectly erode the tax base, as livelihoods are disrupted and incomes fall. Although total revenue grew during FY15 to FY19, a slowdown in revenue growth occurred in years when there was a major natural disaster. Year-on-year growth in total revenue fell from 23.7 percent in FY14 to 11.7 percent in FY15 in the aftermath of a major earthquake. On the spending side, climate-related disasters often result in large, unplanned expenditure increases as the

government provides relief to affected households and firms and invests more in reconstruction and repair works. In the case of the 2015 earthquake, damages and losses were estimated at \$7 billion, or nearly one-third of Nepal's GDP (National Planning Commission 2015).

**Environmental risks also impose significant human capital costs that directly depress growth.**

Fossil fuel combustion and the associated release of greenhouse gases are widely acknowledged to be key drivers of climate change. However, climate change is not their only adverse side effect. High levels of ambient and indoor air pollution, driven to a large extent by biomass combustion, mean that Nepal's population also faces a severe environmental and public health challenge. According to the *2020 Environmental Performance Index*, Nepal is in the top three countries—alongside India and Pakistan—with the world's worst air quality (Yale University and Columbia University 2020). Air pollution has adverse impacts on human health and mortality. Not only does it lead to reduced lung functions, respiratory infections, and aggravated asthma, it is also linked to adverse maternal health and birth outcomes.

<sup>14</sup> At the same time, the government announced additional relief spending on health, economic and social measures to support households and firms, but total spending only grew by 2.1 percent due difficulties in delivering services during the lockdown.

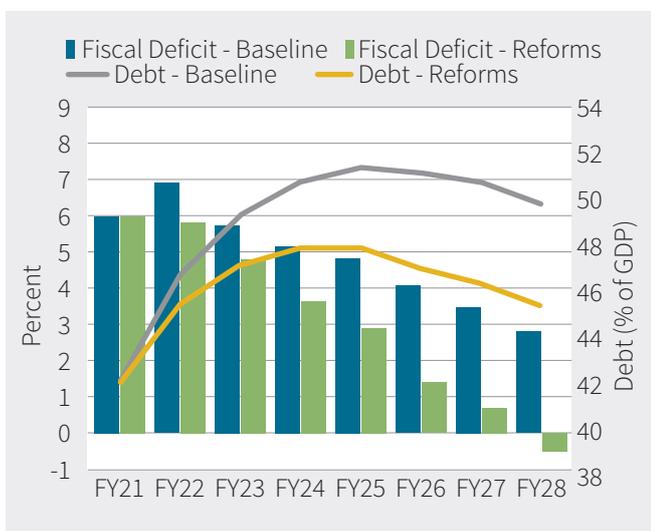
## 1.5 AMBITIOUS FISCAL REFORMS ARE CRITICAL TO SUCCESSFULLY EXECUTE THE GRID AGENDA

### Nepal will not be able to alleviate fiscal stress by returning to business as usual after the pandemic.

Under a baseline scenario, which is consistent with the World Bank's medium-term projections, fiscal pressure from the transition to federalism and COVID-19 is expected to persist in the medium-term. In this case, the fiscal deficit is expected to peak at 6.9 percent of GDP in FY22 before declining slowly (Figure 1.7). This is expected to be driven by persistently high recurrent expenditure, which results in a situation where spending is projected to exceed revenue for the entire forecast period (Figure 1.8). Public debt under this scenario is expected to increase until FY25, reaching 51.8 percent of GDP and breaching the target of 50 percent of GDP outlined in Nepal's Medium-Term Debt Strategy. Under these projections, GDP growth is assumed to recover gradually to reach 6.5 percent in FY26 (Figure 1.9).

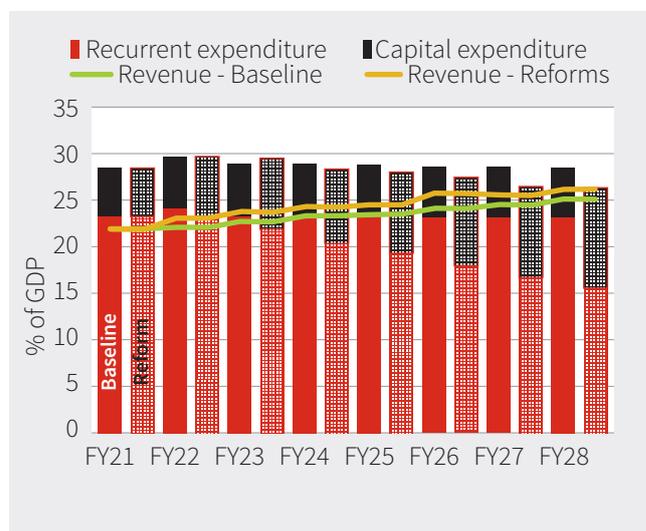
### Through ambitious fiscal reforms, Nepal has the potential to increase fiscal resilience and inclusive growth, thus laying the groundwork for a transition to GRID.

A reform scenario that considers adjustments to tax and expenditure policy highlights the potential for fiscal reform.<sup>15</sup> Under this scenario, recurrent expenditure consolidation and revenue strengthening measures would contribute to a faster decline in the fiscal deficit, which could turn into a surplus in FY28 (Figure 1.7). In this case, public debt would remain comfortably below the benchmark of 50 percent of GDP, peaking at 48 percent of GDP in FY25 and declining subsequently. Such reforms could also stimulate inclusive and job-creating growth if they involve a shift from recurrent to capital expenditure (Figure 1.8) and reforms to import duties that encourage exports. Specifically, simulations suggest that Nepal could increase its annual growth rates by about 0.5 percentage points each year through fiscal reforms (Figure 1.9).



**Figure 1.7.** Fiscal deficit and debt (% of GDP) under a baseline and reform scenario, FY21–FY28

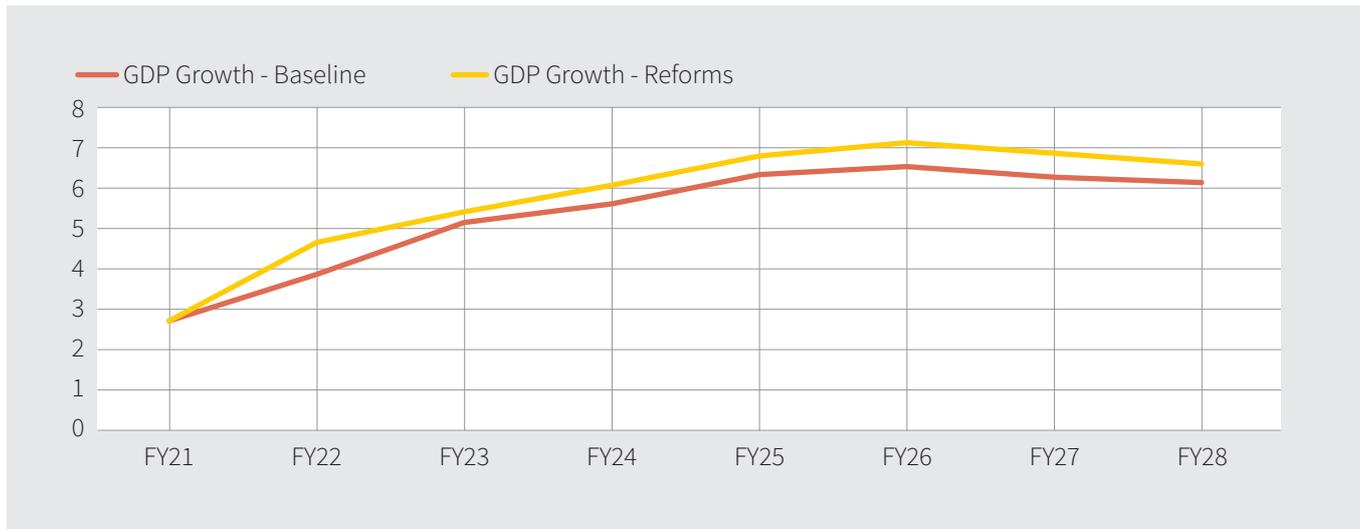
Source: World Bank staff projections.



**Figure 1.8.** Expenditure and revenue (% of GDP) under a baseline and reform scenario, FY21–FY28

Source: World Bank staff projections.

<sup>15</sup> The scenario is based on the assumptions that (i) reforms to budget execution will increase capital budget execution rates by 3 percentage points per year, up to a maximum of 90 percent, (ii) aggregate expenditure will decrease to 26 percent of GDP per year through a reduction of recurrent spending, (iii) enhancements to VAT policy will increase VAT revenue by 2 percent per year, (iv) streamlining of income tax incentives will generate indirect tax gains of 1 percentage point of GDP per year and (v) duty reform will support export growth while marginally reducing duty revenue.



**Figure 1.9.** GDP growth under a baseline and reform scenario, FY21–FY28

*Source:* World Bank staff projections.

**These improvements to fiscal resilience and inclusive growth are complemented by significant environmental benefits if fiscal policy is used to mitigate climate change and air pollution.** Tax policy is a critical tool to mitigate sources of climate change and air pollution, as it allows policymakers to align the private costs of greenhouse gas and pollutant emissions with their public costs. Expenditure policy can complement such efforts by facilitating the adoption of low-pollution technologies. Reaping the environmental benefits from fiscal policy would not only allow Nepal to “green” its development path, it would also offer an opportunity to mitigate the adverse human capital impacts of air pollution and thus directly support growth.

**This PER identifies the necessary fiscal policies to realize the potential highlighted in the simulations, helping Nepal transition to a GRID path.** Chapter 2 identifies options to improve the inclusiveness of the country’s development path and to mitigate fiscal risks by

focusing on effectively operationalizing fiscal federalism. It takes stock of how spending at all levels of government has evolved and identifies the reforms needed to realize the promise of federalism. Chapter 3 examines how Nepal can raise more revenue from domestic sources to enhance fiscal resilience, and how it can address the adverse economic impacts created by import duties, with the aim of enhancing productivity and inclusive job creation. Recognizing Nepal’s vulnerability to environmental shocks and emerging hazards such as air pollution, chapter 4 considers how fiscal policy can help Nepal “green” its development by mitigating climate change and air pollution. It estimates the external costs of Nepal’s current energy consumption and assesses the extent to which Nepal’s tax system internalizes them. Chapter 5 focuses on budgetary institutions and assesses the key factors that limit effective capital spending to boost growth. The chapter also presents the results of an institutional review of the country’s budget planning and public investment management (PIM) process.

**CHAPTER 2**

# Expenditure in federal Nepal



*Nepal has gradually devolved multiple expenditure categories to subnational governments, financed through intergovernmental transfers. The transition, however, is not yet complete. Duplication of spending in concurrent areas needs to be reduced to ease spending pressure on the federal government. Also, subnational governments need to be encouraged to use their untied resources for their own constitutional spending responsibilities. This chapter provides an institutional assessment of Nepal's intergovernmental framework and identifies critical policy reforms to this end.*

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## 2.1. INTRODUCTION

**The adoption of the federal constitution in 2015 initiated a radical transformation of Nepal's public sector.** The constitution envisions empowering people through their PLGs, and transforming an ineffective, centralized, and bureaucratic public services and administration system into a modern public sector. It aims to make each of the three levels of government—federal, provincial, and local—inclusive, efficient, responsive, and accountable to their respective constituents. In the span of a few short years, Nepal has made considerable progress in strengthening fiscal federalism: it has established elected PLGs, transferred responsibility for key public sector services to these subnational governments, and put in place basic intergovernmental (fiscal) systems to guide funding flows from federal to provincial and local governments.

**This chapter takes stock of how the implementation of federalism has impacted spending.** Section 2.2 provides an overview of how federalism has affected the amount and allocation of public expenditures, emphasizing that federalism has elevated aggregate spending while the federal level still retains most spending responsibility. Section 2.3 identifies the institutional challenges in the intergovernmental fiscal framework that stand between the reality and potential of federalism, focusing on the

incentives provided by intergovernmental transfers. Section 2.4 proposes a series of reforms to realize the gains from federalism. These reforms focus on the overall allocation of spending between the federal and subnational governments, while more sector-specific suggestions on the efficiency and effectiveness of spending are explored in the forthcoming World Bank Human Capital Public Expenditure Review.

### Box 2.1

## Nomenclature: **Exclusive and concurrent powers in Nepal**

It is not unusual, in fiscal federalism, for local functions and expenditures to be divided into two categories: exclusive and concurrent local government functions. In standard federalism, concurrent functions share responsibility between different government levels, while exclusive functions generally refer to those where one level has sole responsibility.

In Nepal, however, the constitution applies a different practice, by assigning “exclusive powers” over specific functions to the federal, provincial, and local levels, while also designating these functions as areas of “concurrent powers”. As a result, local governments in Nepal have “exclusive, but concurrent” functions, such as basic education and health services, and “exclusive, but non-concurrent” functions, which include local development activities and local administration.

## 2.2. THE IMPACT OF FEDERALISM ON THE ALLOCATION OF PUBLIC SPENDING

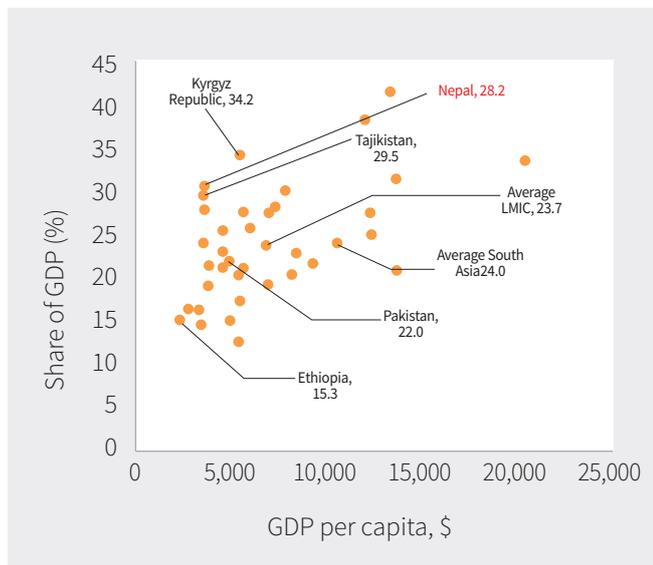
### 2.2.1. The transition to federalism has been costly

**Nepal spends more than many of its peers.** In FY19, Nepal’s general government expenditure amounted to 28.2 percent of GDP. This is higher than the average for lower middle-income countries, the average for the rest of the South Asia region, and higher than in other federalized countries such as Ethiopia, Kenya, and Pakistan (Figure 2.1). Spending increased by about 10 percentage points of GDP between FY11 and FY19. Capital expenditures grew the fastest over this period, increasing from 3.5 percent of GDP in FY11 to 12.5 percent of GDP in FY19 (Figure 2.2), mostly due to reconstruction activity in the aftermath of the 2015 earthquake and floods. However, recurrent expenses also increased substantially.

**On the recurrent side, two factors have driven the increase in public spending.** First, the transition to a federal system and the creation of four new intergovernmental transfers by the 2015 constitution has

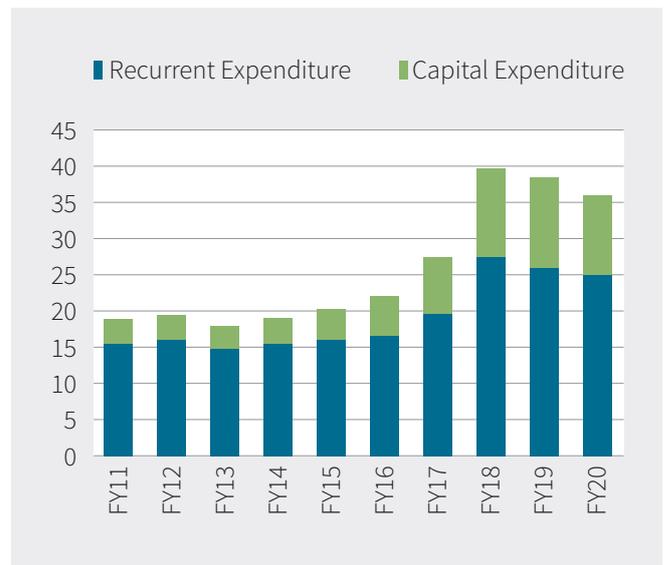
driven up expenditure on grants from just 6.1 percent of GDP in FY13 to 13.5 percent of GDP in FY19 (Figure 2.3).<sup>16</sup> Second, spending on compensation of employees has increased from 4.2 percent of GDP in FY11 to 5.2 percent of GDP in FY19. Social security expenses have similarly increased from 1.8 to 3.5 percent of GDP over the same period. These increases were mostly due to large, structural increases in monthly civil service salaries and consequently in pension payments (due to indexation), which occurred in FY14, FY15 and especially in FY17. By sector, the increase in spending has been driven by two categories: general public services and economic affairs (Figure 2.4). These categories generally reflect the increase in spending on administrative affairs (in line with the transition to federalism), as well as investments in transport, fuel, and energy.

**The design of the new intergovernmental fiscal framework has created a large vertical fiscal gap.** While a significant portion of expenditure responsibilities was transferred from the federal government to PLGs in recent



**Figure 2.1.** The relation between general government expenditure and GDP per capita

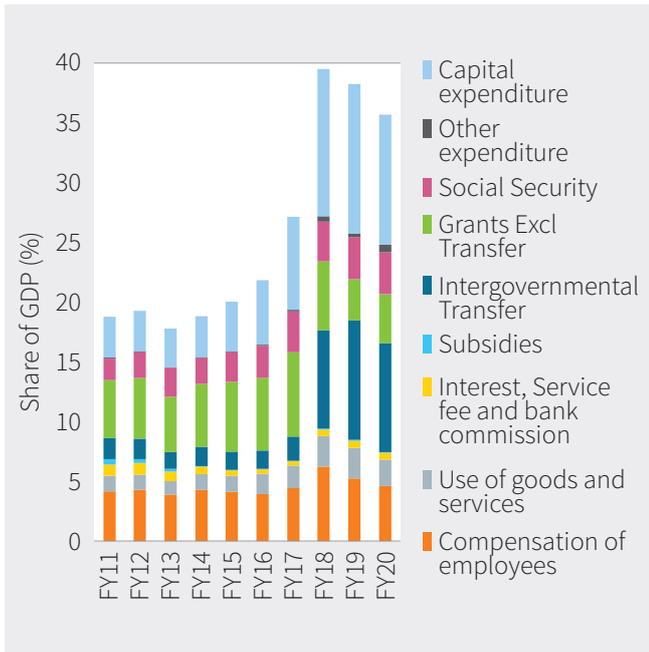
**Source:** World Bank staff calculations based on data from IMF 2020a.  
**Note:** Data refer to 2019. GDP is expressed as current international \$ in PPP.



**Figure 2.2.** General government expenditure, disaggregated by recurrent and capital

**Source:** World Bank staff calculations and estimates based on data from Ministry of Finance.  
**Note:** FY20 is a preliminary estimate.

<sup>16</sup> Some over-estimation by provincial and local governments is possible, as grants received were recorded as grant expenses rather than revenues in some cases.

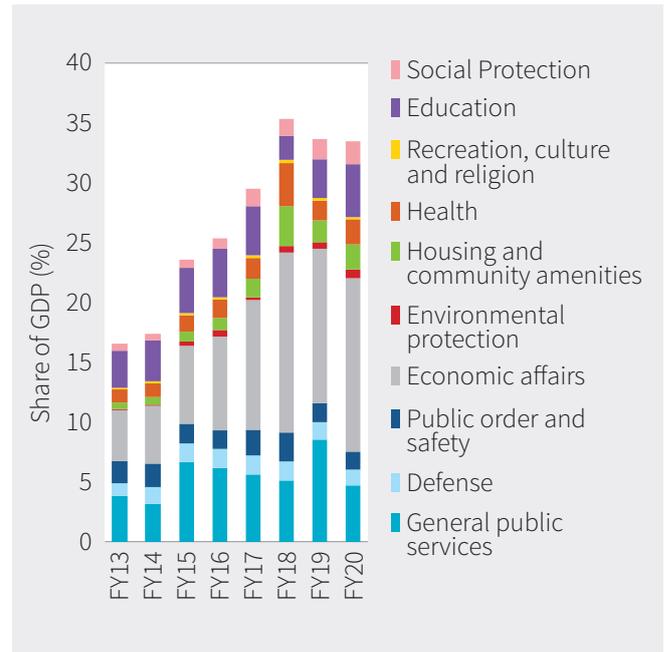


**Figure 2.3.** General government spending by economic classification, percent of GDP

**Source:** World Bank staff calculations based on data from the Ministry of Finance.

**Note:** FY20 is a preliminary estimate.

years, revenue powers were not similarly decentralized, resulting in a significant vertical fiscal gap (Figure 2.5). Since PLGs have limited ability to raise revenues on their own, they are highly dependent on transfers from the federal level to finance their spending. In FY16 and FY17, roughly 7 percent of the federal budget was channeled

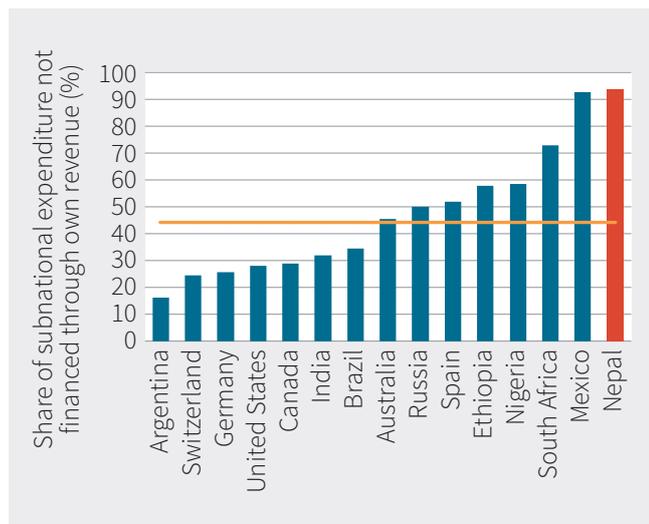


**Figure 2.4.** General government spending by functional classification, percent of GDP

**Source:** World Bank staff calculations based on data from the Ministry of Finance.

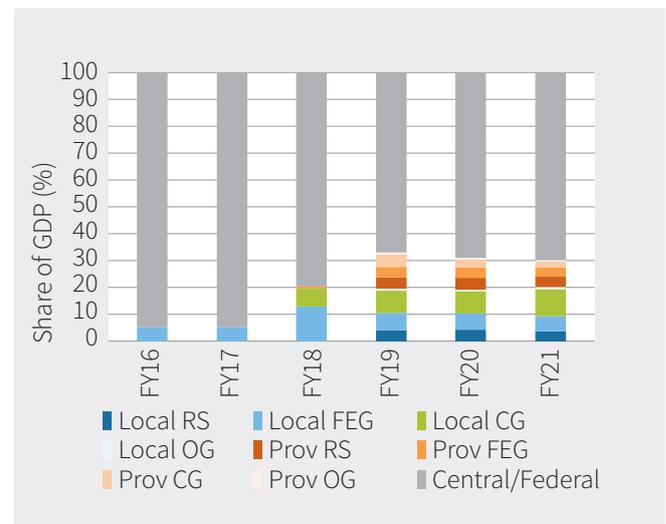
**Note:** FY20 refers to budgeted data. General public services category nets out intergovernmental transfers.

towards local bodies; in FY18, transfers to PLGs had risen to 25 percent of federal spending, or 7 percent of GDP. Conditional and fiscal equalization grants to the local level account for nearly half of all intergovernmental transfers (Figure 2.6).



**Figure 2.5.** Vertical fiscal gap

**Source:** World Bank staff calculations, based on OECD/UCLG 2019 and IMF 2019.



**Figure 2.6.** Vertical allocation of public finances (FY16–FY21)

**Source:** World Bank staff calculations, based on data from the Ministry of Finance, Nepal (various years).

**Note:** RS = revenue sharing, FEG = fiscal equalization grant, CG = conditional grant, OG = other (matching and special) grants, Prov = Provincial

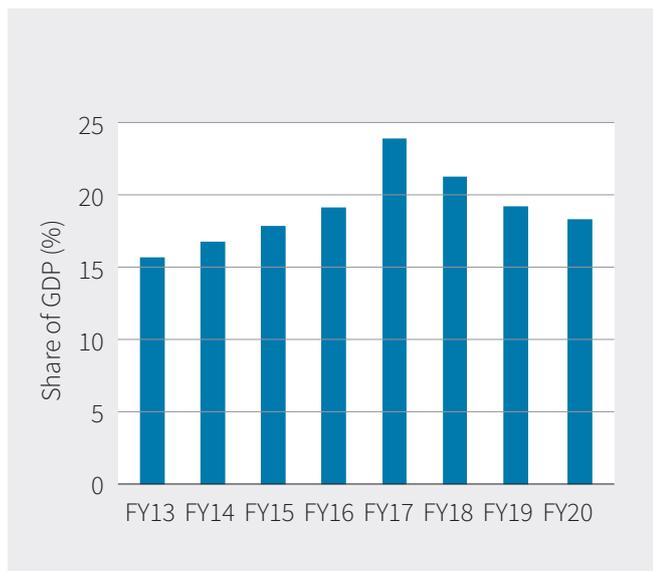
**Despite the substantial devolution of resources, federal direct spending (which excludes intergovernmental transfers)<sup>17</sup> has not decreased one-to-one.** Prior to federalism, direct federal spending stood at 19 percent of GDP in FY16, roughly the same as today (Figure 2.7).<sup>18</sup> As a result, overall federal government spending (including transfers) has increased by around 8 percentage points of GDP, and the federal level still controls the bulk of expenditure: in FY19, federal government expenditure accounted for 72 percent of total government spending, provincial governments accounted for 8 percent, and local governments for the remaining 20 percent<sup>19</sup> (Figure 2.8).

**During the initial transition phase, the federal level continues to directly finance some devolved and shared responsibilities, including subnational personnel and social protection.** As part of the transition to federalism, approximately 41,335 civil servants (46 percent of the total) were transferred from federal to provincial and local levels, following the enactment of the Employee Adjustment Act (2017). While PLGs now pay their salaries and wages, the federal government continues to be responsible for

their benefits, including social security, which has kept aggregate personnel spending by the federal level close to pre-federalism levels. Similarly, federal level spending on social protection – a shared responsibility – has not been reduced substantially since the transition, and instead has received support through the introduction of a new federally funded public works program (the Prime Minister’s Employment Program – PMP).<sup>20</sup>

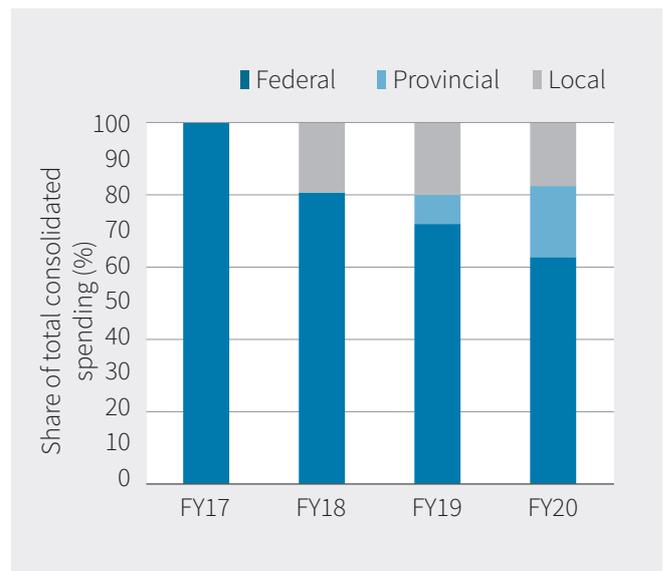
### 2.2.2. Higher spending levels mask a shift in budget allocations

**Federal expenditure has shifted from recurrent to capital spending.** Direct recurrent expenditure fell from 14.2 percent of GDP in FY16 to 12.8 percent in FY19. This occurred mostly on account of a one-off reorganization of recurrent social service grants to government agencies, committees, boards, and other institutions, which were partially transferred to provincial governments (Figure 2.9). Federal spending on goods and services also fell from 1.7 to 1 percent of GDP over the same period,



**Figure 2.7.** Federal expenditure, excluding intergovernmental transfers (FY13–FY20)

**Source:** World Bank staff calculations, based on FCGO data.



**Figure 2.8.** Public spending by level of government (FY17–FY20)

**Source:** World Bank staff calculations, based on data from the Financial Comptroller General Office (FCGO).

**Note:** Calculation nets out newly created internal grants.

<sup>17</sup> In this chapter, “intergovernmental transfers” comprises the four types of new grant to PLGs created by the 2015 Constitution.

<sup>18</sup> Direct spending rose significantly in FY17 and FY18 due to one-off factors, including a hike in the wage bill and significant federalism implementation costs.

<sup>19</sup> This calculation nets out intergovernmental transfers.

<sup>20</sup> The reader is encouraged to consult the World Bank’s Public Expenditure Review in the Human Development sectors – prepared in parallel to this report – for further details on social assistance spending.

## Box 2.2

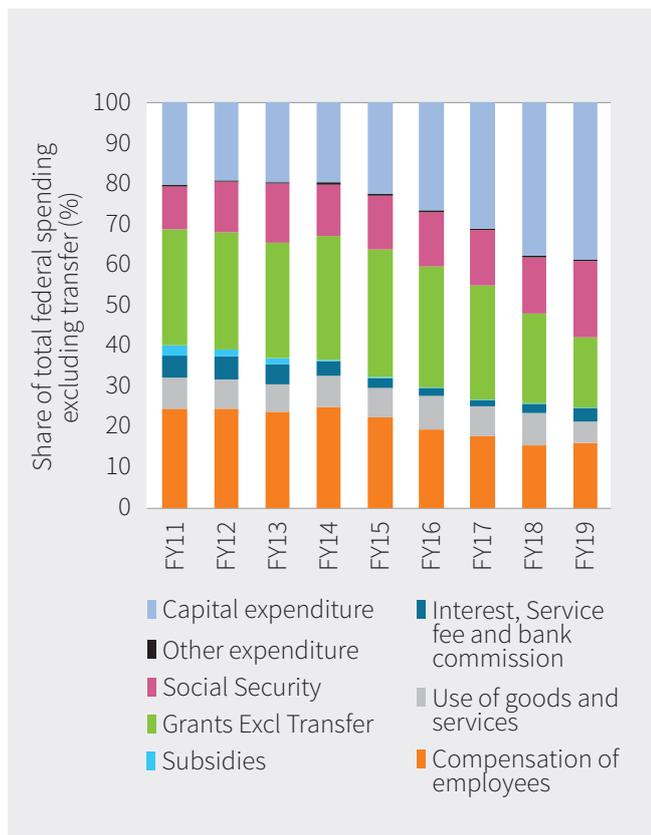
### Data challenges

**There are several caveats around the fiscal data used in this analysis.** Using data that were available up until June 2020—that is, the end of FY20 in Nepal—means that the most recent year of actual spending data is, in most instances, FY19. While the government has made significant progress in rolling out planning, budgeting, and accounting software to subnational levels, introducing a Unified Chart of Accounts to standardize fiscal data reporting, subnational fiscal data used for this PER are likely to suffer from several inaccuracies, especially from the early transition years (FY18 and FY19). The data limitations, summarized in Table 2.1, include:

- **Local government spending data by economic classification needs to be appropriately classified.** Intergovernmental transfers are classified as grant expenditures, rather than revenues. Both budgeted and actual spending data by economic classification for FY19 categorize NPR 117 billion and NPR 82 billion respectively as internal grant expenses. Local governments do not provide such transfers to wards; rather, they receive them from the federal and provincial governments. So, it is assumed that these amounts, representing about one-third of FY19 budgeted and actual spending, should have been recorded as revenues.
- **PLG spending data by function is not accessible in a timely manner.** Although the yearly budget speech reports spending by function at all three government levels, these data do not include expenditure financed by intergovernmental transfers, which make up a substantial share of subnational spending.
- **Actual functional spending by provincial governments was not available for FY20 and FY21 at the time of preparation of this report.** Only budgeted spending by function was available for provinces. Since details on the financing of these provincial expenditures were not available, it was impossible to assess how equalization and conditional grants from the federal to provincial levels are being used. It was also not possible to compare the purpose of actual versus planned spending at provincial level.
- **Actual functional spending by local governments was available for FY18 and FY19, but comparability is a challenge.** The spending by function data was collected from a survey of local governments; for FY19, these were mostly compiled from the Sub-national Treasury Regulatory Application (SuTRA) system. However, the system was only fully rolled out to all local governments in FY20, as it took time to build capacity on how to use the software—in July 2019, only half of all local governments were using SuTRA to prepare their budgets, mostly due to the lack of trained staff (World Bank 2019a). Furthermore, considering errors in the recording of expenditure by economic classification at the local government level, the functional estimates are likely to suffer from similar inaccuracies.
- **Budgeted functional spending by local governments was not available,** so it was also impossible to compare the purpose of actual versus planned spending of local governments.

**Table 2.1.** Gaps in subnational fiscal data limit the scope and depth of the public expenditure analysis

	Budgeted	Actual
Federal	Available by functional and economic classification	Available by functional and economic classification
Provincial	Available by functional and economic classification for FY20 only	Available by economic classification only for FY18 and FY19; not available by function
Local	Available by economic classification for FY19 only	Available by functional and economic classification for FY18 and FY19

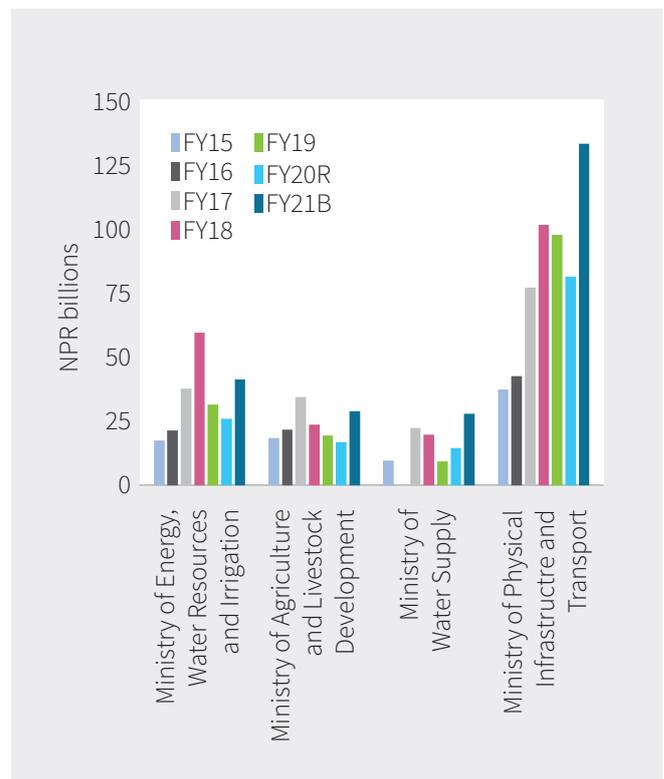


**Figure 2.9.** Federal direct expenditure by economic classification (FY11–FY19)

Source: World Bank staff calculations, based on FCGO data.

mainly due to lower program and miscellaneous material expenses, in line with the administrative decentralization process. These decreases were partially offset by an increase in federal capital expenditure, which increased by 1.6 percentage points of GDP between FY16 and FY19.

**One possible explanation for this shift is the gradual transfer of infrastructure development responsibilities to subnational governments.** For example, by July 2019, the federal authorities had only transferred drinking water and sanitation functions to half of all local governments, and sewage management functions to 37 percent (World



**Figure 2.10.** Federal capital expenditure by ministry (FY15–FY21)

Source: World Bank staff calculations, based on budget speeches FY15–FY21.

Notes: R = revised estimate, B = budgeted allocations.

Bank 2019a), with problems particularly acute in Bagmati, Karnali and Sudurpaschim Provinces. Only 60 percent of local governments had a capital investment plan for drinking water and sanitation, and only half were monitoring performance and outcomes for the sector. An incomplete devolution of infrastructure responsibility is also evident by the concentration of federal capital spending in areas where PLGs are expected to play a more prominent role (Figure 2.10).

**On the functional side, federal spending is allocated largely to economic affairs, while health and**

**Table 2.1.** Federal government spending by function, share of GDP (%)

	FY13	FY14	FY15	FY16	FY17	FY18	FY19
General public services*	3.8	3.1	6.6	6.2	5.6	5.1	4.6
Defense	1.0	1.4	1.6	1.6	1.6	1.4	1.4
Public order and safety	1.9	1.9	1.6	1.5	2.1	1.8	1.4
Economic affairs	4.2	4.8	6.5	7.8	10.7	12.9	9.9
Environment protection	0.1	0.1	0.4	0.5	0.2	0.5	0.4
Housing and community amenities	0.6	0.6	0.8	1.0	1.5	1.7	1.1
Health	1.1	1.1	1.4	1.5	1.7	1.2	1.0

	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Recreation, culture, and religion	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Education	3.1	3.4	3.7	4.0	4.1	1.5	1.0
Social protection	0.6	0.5	0.7	0.9	1.4	1.3	1.2

**Source:** World Bank staff calculations, based on FCGO data.

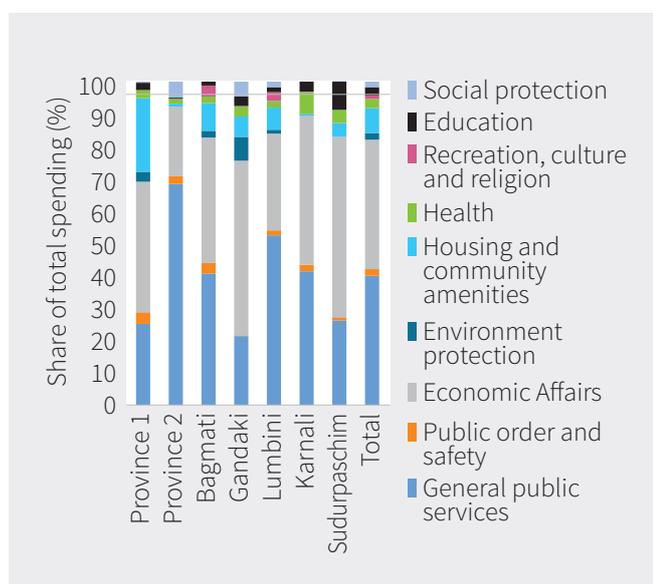
**Note:** \*\*“General public services” excludes intergovernmental transfers.

**education received lower allocations.** The devolution of responsibilities in health and education has reduced federal spending on these sectors between FY15 and FY19: from 1.4 to 1.2 percent of GDP in health and from 1.2 to 1 percent of GDP in education. This decrease was offset by higher spending on economic affairs (9.9 percent of GDP in FY19, about double the average in FY13–FY15), which comprises spending on projects as well as subsidies, grants and loans to the agriculture, industry, and services sectors. The observed increase in economic affairs spending largely reflects capital spending and infrastructure investments.

**Subnational governments have only absorbed spending responsibilities in social sectors to the extent that conditional grants oblige them to.** On aggregate, provinces only spent 0.1 percent of GDP each for health, education, and social protection, respectively, in FY19 (Figure 2.9). Sudurpaschim, Gandaki and Karnali—

provinces with the highest poverty rates in FY11<sup>21</sup>—were outliers, and allocated 13, 11 and 10 percent of their respective budgets to these areas, albeit with different compositions. Local governments spent an aggregate 2.1, 0.5 and 0.4 percent of GDP on education, health, and social protection in FY19 (Figure 2.11), but only to the extent that conditional federal grants oblige them to do so. Specifically, local governments spent half of all federal conditional grant funding they receive on education and 10 percent of the same on health (Figure 2.12). By contrast, spending on these sectors from equalization grants and own-source revenue is negligible.

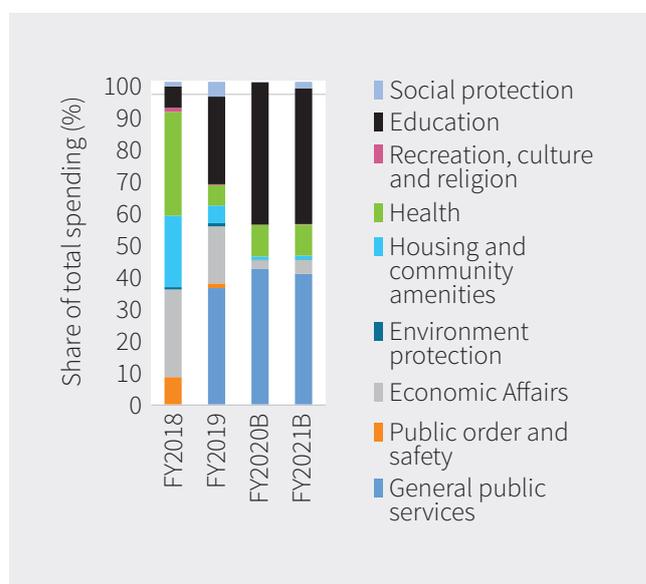
**Instead of using untied resources to invest in health and education, PLGs spend most discretionary funds on infrastructure and local administration.** The bulk of untied fiscal equalization grants and own-source revenue of subnational governments was spent on general public services and economic affairs in FY19 (Figure 2.13).



**Figure 2.11.** Share of provincial budgeted spending by function (FY20)

**Source:** World Bank staff calculations, based on FCGO data.

**Note:** Shows FY20 budgeted data (the only spending by function data available at provincial level).

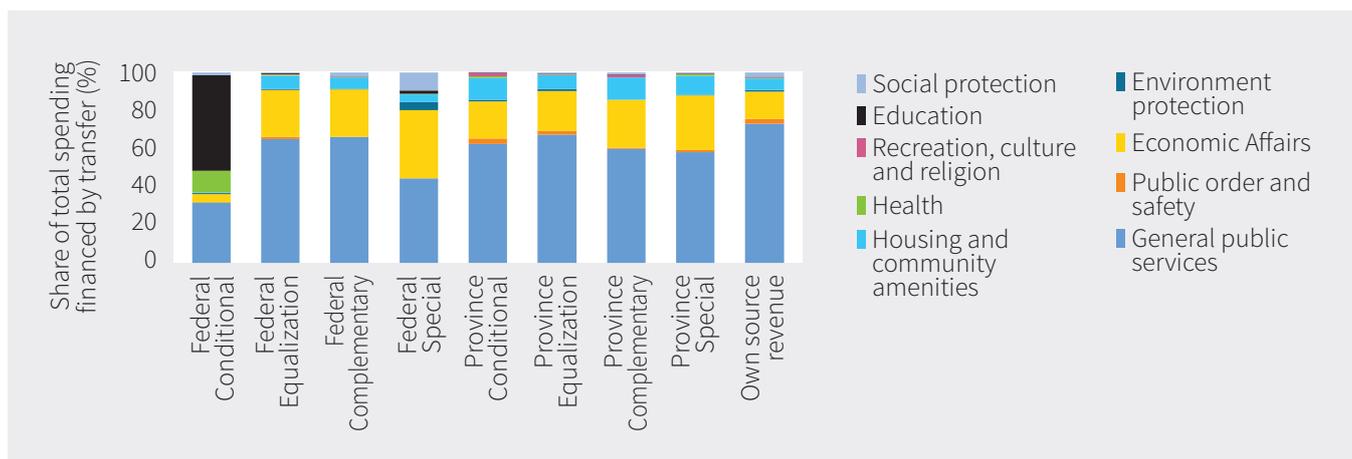


**Figure 2.12.** Share of local government spending by function (FY18–FY21)

**Source:** World Bank staff calculations, based on FCGO data.

**Note:** B = budgeted data.

<sup>21</sup> Based on data from the Nepal Living Standards Survey (FY10–11). See World Bank 2019b, Figure 44.



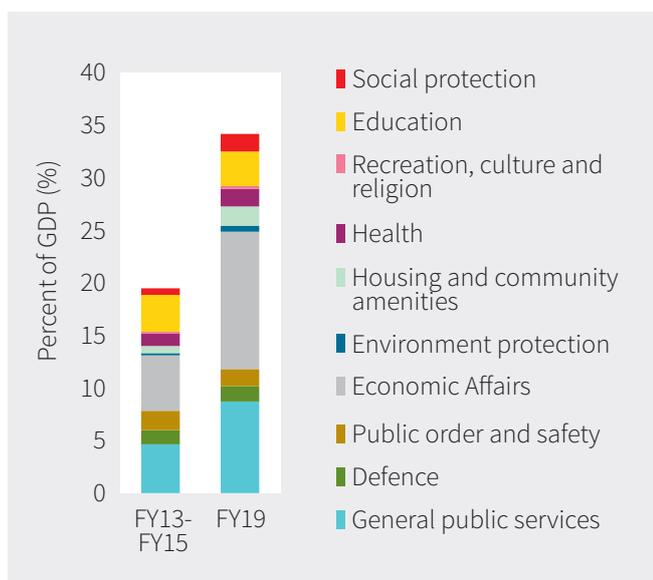
**Figure 2.13.** Local level functional spending, by financing source

**Source:** World Bank staff calculations, based on FCGO data. **Note:** Data refer to FY19.

Indications are that this spending reflects capital investment and administrative needs: in FY19, provincial governments reported spending 63 percent of their respective spending envelopes on capital expenditure, while local governments spent 50 percent. In addition, employee compensation and procurement of goods and services accounted for 26 and 43 percent of total spending in FY19 at the provincial and local level, respectively.<sup>22</sup>

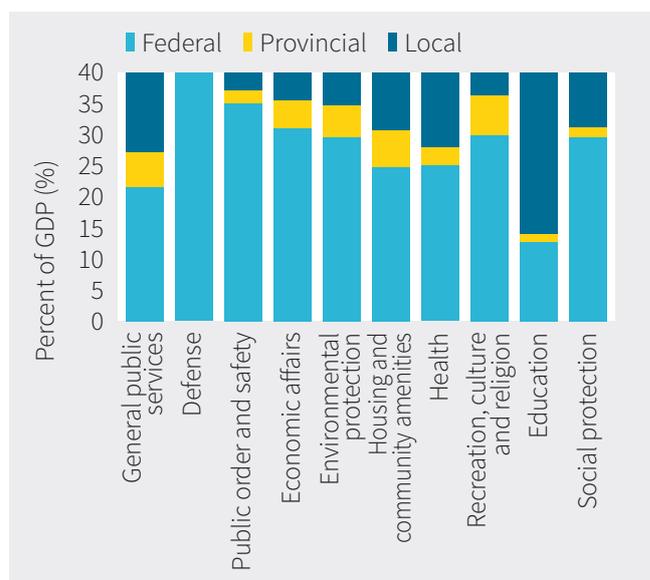
**Taken together, the transition to federalism has led to only a small increase in general government spending on social sectors.** Looking at consolidated spending

across all government levels, Nepal spent 6.5 percent of GDP on health, social protection, and education in FY19, a small increase from the 5.2 percent average in FY13–FY15 (Figure 2.14). Although fiscal decentralization has occurred more in education than in any other sector, the increase was driven by an increase in federal spending on social protection (1 percentage point) and a marginal rise in health spending (0.4 percentage points). Public spending on education fell slightly, by 0.2 percentage points, despite local governments being responsible for 65 percent of total public spending in the sector (Figure



**Figure 2.14.** General government spending by functional classification.

**Source:** World Bank staff calculations, based on FCGO data.



**Figure 2.15.** Share of local government spending by function (FY18–FY21)

**Source:** World Bank staff calculations, based on FCGO data. **Note:** Numbers show total local government spending.

<sup>22</sup> This is consistent with the results of the World Bank federalism capacity needs assessment for Nepal, which indicated a large employment gap at provincial level, but a high level of readiness in terms of office-related infrastructure, including access to electricity, telephone, computers, internet, and vehicles (World Bank 2019a).

2.15). This highlights that the transition to federalism has thus far not allowed Nepal to close the (pre-federalism) spending gap in these critical sectors.

**There is also scope to enhance the cost effectiveness of health and education spending in Nepal.** According to cross-country analysis by Herrera and Ouedraogo (2018), Nepal uses 57 percent more inputs than the most efficient country to achieve the same level of gross secondary

enrollment (input efficiency) and attains only 36 percent of the gross secondary enrollment rate obtained by the most efficient producer for the same value of public resources invested in education (output efficiency).<sup>23</sup> Although the situation is better in health, it remains suboptimal: Nepal achieves 91 percent of the immunization rate achieved by the most efficient producer, given the same amount of public investment.<sup>24</sup>

### Box 2.3

## The response to COVID-19 in the federal system<sup>25</sup>

**Despite its recent transition to a federal republic, the government of Nepal opted to take a more centralized approach to handling the pandemic.** The constitution, the Infectious Diseases Act and the Disaster Risk Reduction Management Act enabled the federal government to dominate the policy response to COVID-19 and implement it through federal-appointed chief district officers, rather than locally elected mayors and governors. This decision was taken even though the Local Government Operations Act (2017) highlights the role of local governments in activities related to epidemic control and emergencies (Karki 2020). The centralized coordination approach helped implement a successive wave of national domestic and international restrictions and enabled the federal government to coordinate fiscal and monetary policy measures to stabilize and stimulate the economy (see IMF 2020c; World Bank 2020b).

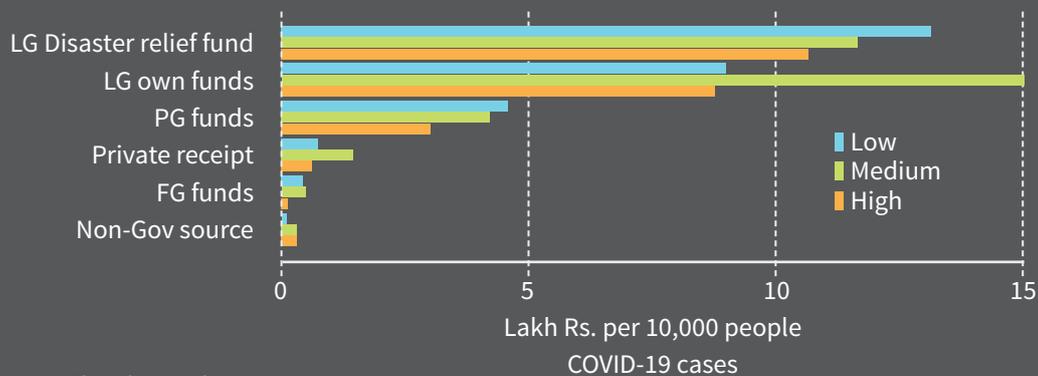
**Local governments played a prominent role in implementing health and social protection measures but lacked the financial resources to provide larger-scale support.** Given that primary health care and sanitation are their exclusive responsibilities, many were able to respond quickly to the public health dimension of the crisis, implementing health campaigns, activating community-based health groups, and establishing health desks to spread awareness of the disease (Dhrubaraj 2020). They also established quarantine and isolation facilities with help from federal and provincial funds. Crucially, local governments also played an active role in deploying social programs. Ward and local government councils drew up preliminary lists of families needing assistance, established grain banks, and delivered food and non-food relief packages to needy families. However, they faced significant resource constraints and mostly relied on the reallocation of their own budgets to fund the response (Figure B2.2.1). As a result, local government COVID-19 spending only averaged 1.9 percent of their total annual budget or NPR 261 per person.

**Provincial governments played a minor role in tackling COVID-19, as indicated by their low spending on the crisis.** Although they established disaster management committees, they had no defined role to play in tackling the crisis, partly because the federal government had empowered chief district officers, and instead mostly focused on supporting public health

<sup>23</sup> While there are many factors that affect the efficiency of spending on education, one reason may be the lack of economies of scale in school infrastructure. Half the number of schools run by local governments are small (6900 or fewer students), and many lack the requisite number of secondary schools to accommodate the increasing number of students completing basic education. See "Education Expenditure Analysis for Nepal in Transition to Federalism", background paper for the forthcoming World Bank HD PER.

<sup>24</sup> One driver of these inefficiencies is the inadequate number of human resources, and the poor coordination across levels of government. See "Fostering Health Coverage in Nepal: A Federal Challenge", background paper for the forthcoming World Bank HD PER.

<sup>25</sup> Additional details on the COVID-response are provided in the background paper on expenditure produced for this PER.

*box continue 2.3***The response to COVID-19** in the federal system**Figure B2.2.1.** Funding sources for local government COVID-19 response, by COVID-19 caseload

Source: Bhandari et al. 2020.

efforts. Few provinces gave households social assistance or economic support; and when they did, this was mostly channeled through local governments. Province 2, for example, financed food relief packages for families affected by the lockdown, varying from NPR 1 million in rural municipalities to NPR 2.5 million in metropolitan cities (Ghimire 2020a).

**Nepal's COVID-19 response illustrates several areas in which the transition to federalism has yet to be consolidated:**

1. Multiple overlapping and conflicting laws on how to respond to an emergency event such as a pandemic led to a lack of accountability, confusion over roles and responsibilities, duplication of efforts and delays in reacting to the crisis at all levels of government.
2. PLGs are understaffed and under capacitated, in large part due to the delays in passing the Federal Civil Service Bill. While many provinces have already formed province-level civil service commissions, these entities cannot act and hire staff until the federal bill has been passed (Ghimire 2020b). As a result, there is a shortage of technical expertise at subnational level in a wide range of governance matters, and of human resources in health, education,<sup>26</sup> and social assistance services.
3. While each level of government allocated a portion of its budget towards the COVID-19 response, the limited federal government guidance on how to deploy them resulted in some areas having inadequate funds, and others having excess funds. The absence of a common national standard and guidelines for disaster relief also resulted in ad hoc attempts to distribute social assistance services, leading to large exclusion errors in many localities.

**However, the crisis has also unfurled some innovative policy responses in Nepal's federal system.** For example, some municipalities implemented mobile "agricultural ambulances" to connect farmers whose livelihoods had been impacted by the pandemic with communities where lockdown measures had been imposed, helping to ensure food security (Bhusal et al. 2020). Other local governments offered seed money to returning migrants to set up businesses or offered auxiliary services to help them find new sources of income. For example, Phedikhola Rural Municipality collected details of the skills and experience of returnee migrants, provided counseling services, and distributed employment program brochures to help them find work (Mandal 2020). Such achievements emphasize the value of federalism in enabling local solutions to country-wide problems.

<sup>26</sup> Only about 45 percent of local governments had at least one permanent education staff member through civil service adjustment (World Bank, 2019a). Others were employing contract staff or using secondees to run their education unit.

## 2.3. A REVIEW OF THE FEDERAL FISCAL SYSTEM

The previous section has highlighted that federalism in Nepal remains in transition. The evidence suggests that some degree of duplication of spending persists. In particular, the federal government continues to allocate its own budget to devolved areas. In functional areas where the federal level has retreated, most notably health and education, PLGs rely on conditional grants to finance spending, opting to use untied resources for administrative needs or infrastructure spending instead. When tested by COVID-19, the federal system was not yet able to mount a coordinated response and thus retreated to a model of centralized coordination. This section examines four critical aspects of the federal system – the vertical distribution of transfers, the design of conditional grants, the horizontal distribution of untied resources and its vulnerability to fiscal risks – to identify the institutional drivers of these outcomes.

### 2.3.1. Achievable and affordable service delivery standards are needed

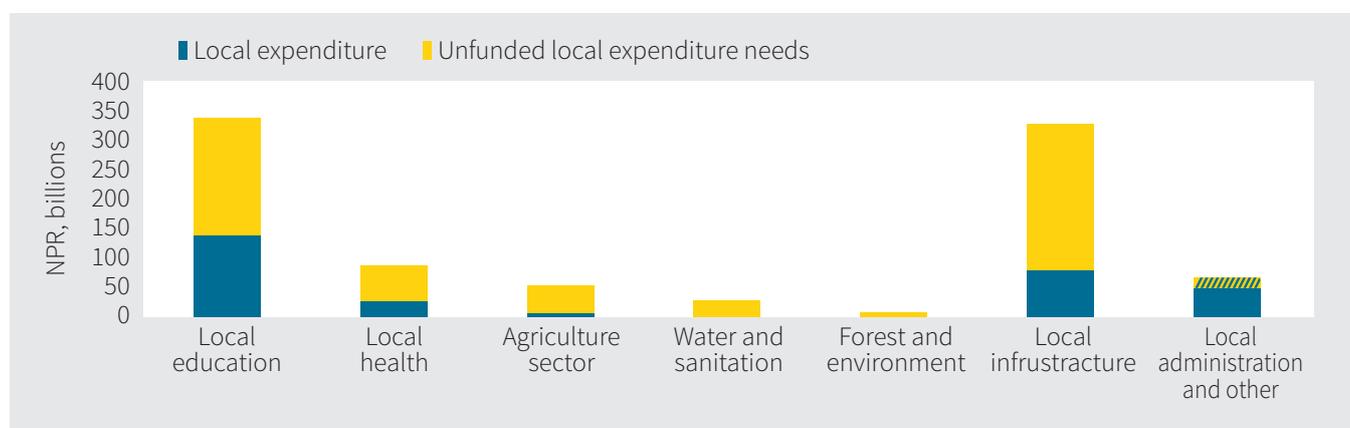
Best practice suggests that the vertical distribution of resources should close the gap between subnational expenditure needs and revenue potential. Nepal's constitution tasks the NNRFC with setting and costing service delivery standards and estimating subnational revenue potential. In practice, however, the vertical

distribution has not followed a consistent methodology for two reasons:

**First, staffing issues have prevented the NNRFC from fulfilling its constitutional role.** While the commission is meant to function as a constitutionally neutral and independent arbiter, it does not have any permanent expert staff. Instead, it relies on seconded federal officers, who are rotated in and out. In addition, members of the commission have only been recently appointed.

**Second, service delivery standards are not fully aligned to available resources.** Service delivery standards are set by federal line ministries. These define them based on the sector's long-term development goals, without considering the budget envelope needed to achieve them. This results in standards that cannot be achieved with the available resources and follows Nepal's historic modus operandi, in which estimated funding gaps were used to seek support from development partners and international financial institutions, and thus tended to overestimate financing needs. The vertical allocation of resources thus cannot be guided by the estimated fiscal gap and is instead determined in an ad hoc manner.

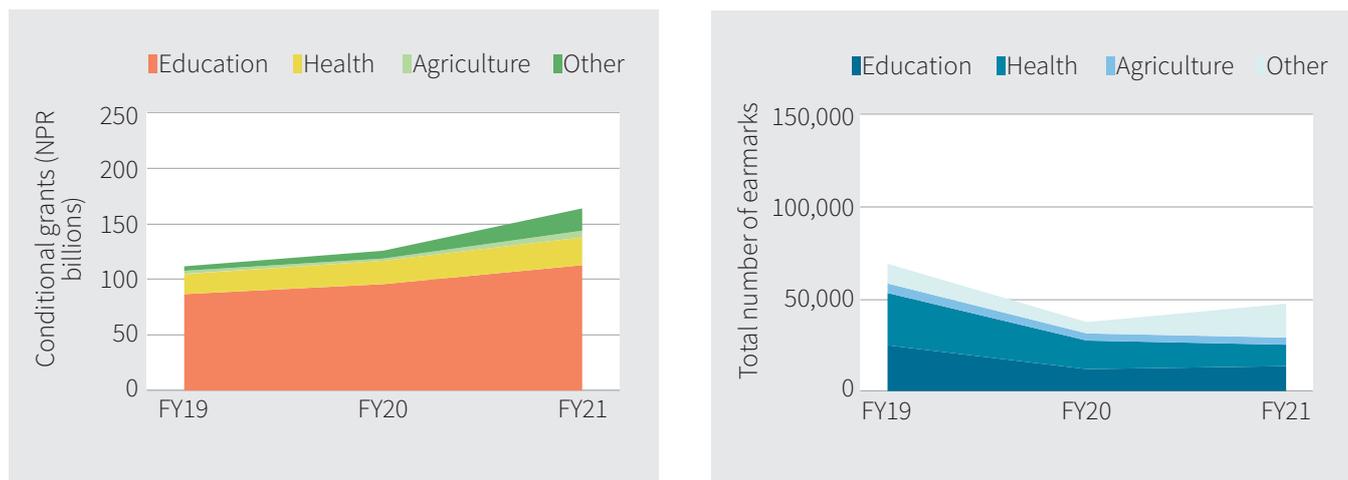
**This practice has resulted in unfunded mandates in most areas.** Figure 2.16 presents estimates for the unfunded gap between expenditure needs based on (fully costed) sectoral norms and standards and actual spending levels.



**Figure 2.16.** Local expenditure versus unfunded local expenditure needs, by function (FY21)

**Source:** World Bank staff calculations, based on National Planning Commission 2018 (costing of financial requirements for Nepal's SDGs and the estimated relative share of local governments in sectoral expenditures).

**Note:** Local administration spending exceeded norm-based expenditure needs (indicated by diagonal stripes).



**Figure 2.17. Conditional grants by sector: size and number of earmarks (FY19–FY21)**

**Source:** World Bank staff calculations, based on data from the Ministry of Finance, Nepal/LMBIS.

While local governments in aggregate only have around NPR 330 billion at their disposal for FY21, it would cost at least NPR 919 billion to deliver local public services to the whole population in line with the standards and norms established by federal sector ministries. As standards are not only needed to determine the vertical distribution of resources, but also to guide subnational expenditure decisions and align them with national priorities, their absence has also resulted in confusion over expenditure responsibilities.

### 2.3.2. The design of grants has resulted in a system where “function follows finance”

**There is a concern that the intergovernmental grant system may not have evolved as outlined in the constitution.** The constitution prescribes a transfer system where local recurrent sectoral services are funded from untied resources (mainly fiscal equalization grants, with revenue sharing meant to finance administrative costs as indicated in the Intergovernmental Fiscal Arrangement Act 2017). Conditional grants are intended to complement independent subnational spending on infrastructure to allow it to achieve national priorities and standards. Instead, conditional grants today provide earmarked funding for PLGs’ recurrent functional responsibilities, resulting in a duplicative allocation of grant resources.

**The design of the conditional grant system is highly earmarked in many sectors.** In contrast to other intergovernmental transfers, the design of the conditional grant system is a direct continuation of financing modalities in the pre-federal system. As part of the transition, the Ministry of Finance removed funding for devolved activities from

line ministry budgets and reclassified them as conditional grants, and the federal sector ministries continue to enter conditional grants into the budget management system in the highly detailed, earmarked fashion used previously for budgets. This requires a typical local government to comply with over 110 specific earmarks. Both the total value of conditional grants and the number of earmarks have increased between FY20 and FY21, highlighting that excessive earmarking is not just a transitional phenomenon (Figure 2.17).

**The bulk of conditional grants is provided to fund the recurrent provision of public services, which are constitutionally defined as exclusive local government functions.** Conditional grants are skewed in favor of education and health, with other sectors receiving little or no resources through them. By contrast, less than one-fifth of conditional grant resources is directed to ensuring equitable access to local-level infrastructure, such as school buildings, health posts, piped water, and local roads. This practice contradicts the spirit of the new federal structure and constitution, in which conditional grants should provide federal co-funding for local infrastructure investments, which lies largely within the constitutional mandate of PLGs, instead of prescribing precise recurrent expenditure patterns.

**The design of conditional grants needs to be streamlined to better incentivize PLG spending on social sector service delivery.** The dual system of untied funds and conditional grants has given rise to an alternative distribution of spending and funding in which local governments consider resources from revenue sharing and fiscal equalization grants as funding sources for exclusive expenditure responsibilities. At the same time, they rely almost exclusively on conditional grants for concurrent

sectoral functions such as education, health, water, and sanitation.

**The federal level also uses methods outside the grant system to retain control over key spending areas.** In addition to conditional grants, federal line ministries have adopted “delegated budget spending”, which has helped them to retain control over subnational expenditure. As part of this approach, PLGs seek budget financing directly from federal ministries’ budget lines, which falls outside of the federal grant system and the oversight of the NNRFC. Delegated spending was established by a cabinet decision in 2018 and is used by 70 to 90 percent of subnational authorities, mainly to support expenditure on economic development, agriculture, roads, and other infrastructure (Ministry of Finance, 2019).

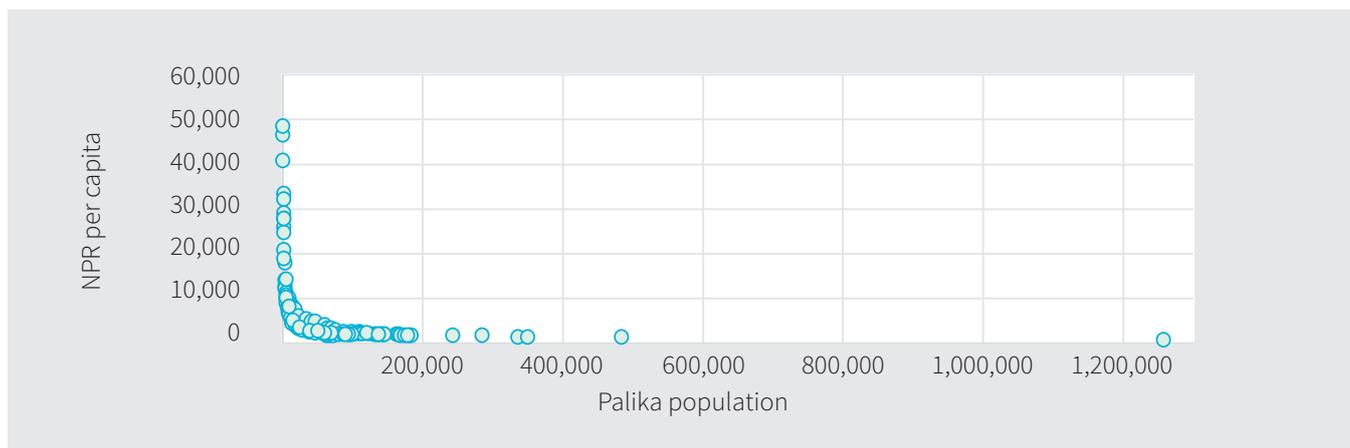
**The continued control has resulted in a system where “function follows finance”.** A general principle for the design of an intergovernmental fiscal system is “finance

follows function”, emphasizing that transfers should finance the constitutionally stipulated expenditure responsibilities. By contrast, resource assignments in Nepal during the transition phase have prioritized de facto centralized control over decentralized solutions. This limits decision-making and discretion of PLGs.

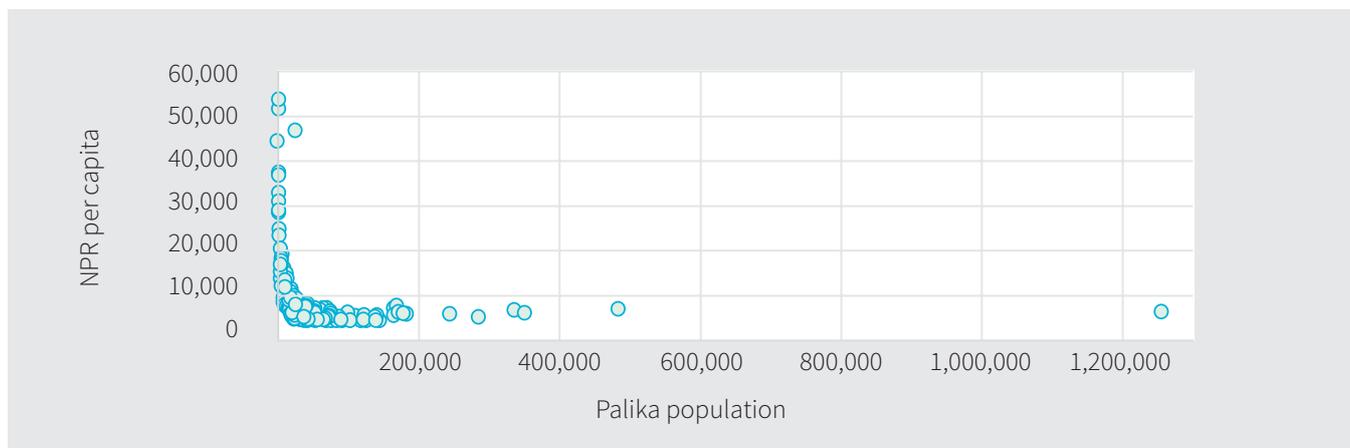
### 2.3.3. The distribution of untied resources may not contribute to alleviating horizontal inequities

**The formula for the horizontal distribution of untied resources needs to be simplified.** Revenue sharing is divided between provincial and local levels according to a formula devised by NNRFC, which considers population (70 percent), area (15 percent), a human development index (5 percent) and an underdevelopment index (10 percent). Allocations to each local government are adjusted so they receive a minimum of NPR 35 million. Fiscal equalization

#### a. Fiscal equalization grants

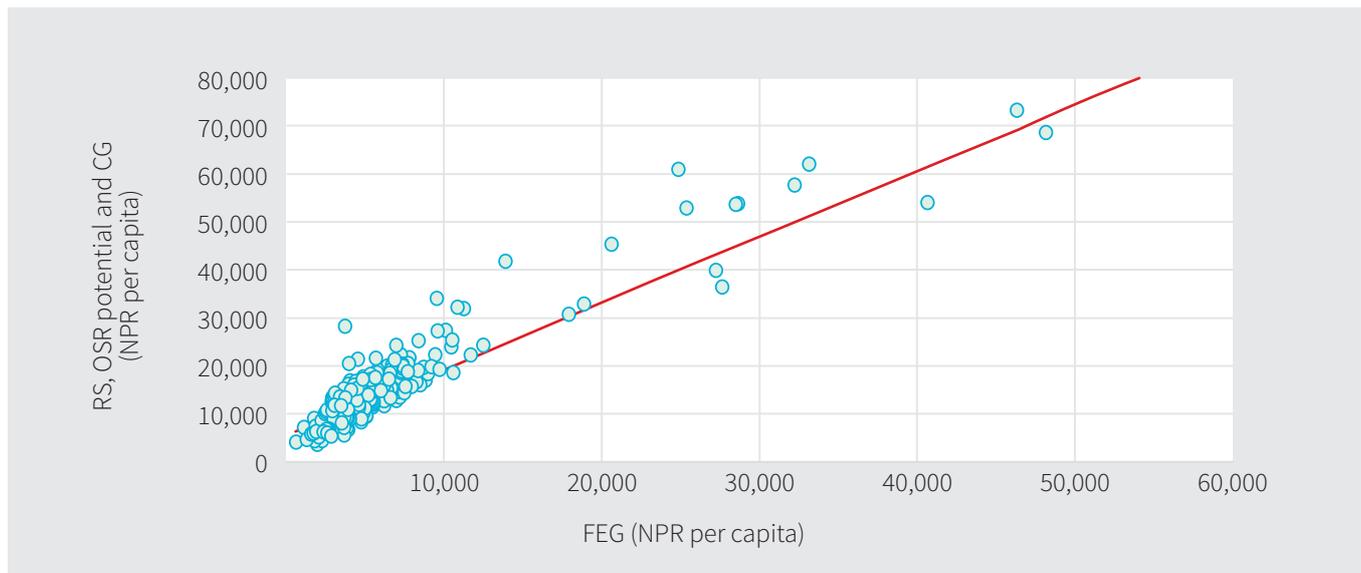


#### b. Revenue sharing (estimated)



**Figure 2.18.** More populous localities receive fewer shared revenues and grants (FY21)

**Source:** World Bank staff calculations, based on data from the Ministry of Finance, Nepal and FCGO.



**Figure 2.19.** Fiscal equalization grants tend to go to the localities that receive the most resources overall (FY21)

**Source:** World Bank staff calculations, based on data from the Ministry of Finance, Nepal and FCGO.

**Note:** RS = Revenue sharing, OSR = own-source revenue, CG = conditional grants, and FEG = fiscal equalization grants.

grants are distributed as the sum of three components: a minimum grant (25 percent), a formula-based grant (73.125 percent) and a small performance-based grant (1.875 percent). The formula-based component considers a fiscal gap index (70 percent), a disparity index (5 percent), an infrastructure index (15 percent), and a human development index (10 percent). The formula-based allocation is adjusted to ensure that each local government receives a minimum allocation of NPR 65 million.

**The allocation of fiscal equalization grants could be better matched with fiscal gaps.** Local governments in larger urban areas receive considerably fewer resources per person relative to their expenditure needs (Figure 2.18). This pattern is consistent with long-standing practices in Nepal (see, for example, Boex and Martinez-Vazquez 2004) and is informed by a policy that emphasizes equalization over economic growth. Also, local governments that have greater own-source revenue potential and receive greater levels of revenue sharing and conditional grants systematically receive greater allocations of fiscal equalization grants (Figure 2.19). This misallocation arises not because the horizontal distribution of equalization grants coincides with other funding sources (especially conditional grants), but rather because they aim to fund the same functional responsibilities (see previous section). This means that, rather than a focus on filling the fiscal gap after accounting for other revenues, equalization grants end up doubling up on funding to localities that have higher revenues from other sources.

**The allocation of fiscal equalization grants does not effectively equalize the fiscal gap between expenditure**

**needs and the availability of other revenue sources.**

Local governments that have greater own-source revenue potential and receive greater levels of revenue sharing and conditional grants systematically receive greater allocations of fiscal equalization grants (Figure 2.19). This misallocation arises not because the horizontal distribution of equalization grants coincides with other funding sources (especially conditional grants), but rather because they aim to fund the same functional responsibilities (see previous section). This means that, rather than equalize the fiscal gap after accounting for other revenues, equalization grants end up doubling up on funding from other sources.

**The allocation factors included in the revenue sharing and fiscal equalization grant formulas are based on complex indices, with often inadequate data or methodology and unclear links to local public service delivery.** Thus, while the application of an objective allocation formula presents a significant departure from the pre-federalism approach of making allocation decisions in a discretionary manner, there is now an increasing need to fine-tune the formulas to ensure that the horizontal resource allocation corresponds to the different expenditure needs and fiscal capacity of PLGs. NNRFC has recently taken steps to refine the fiscal equalization formula by adopting a fiscal gap approach, which intends to use independent data sources to establish PLGs' expenditure needs and revenue capacity. This is expected to improve the transparency of the allocation mechanism and is consistent with international practice when significant variation in revenue capacity and expenditure needs across subnationals exist, as is the case for Nepal.

### 2.3.4. The design of the intergovernmental system may expose Nepal to fiscal risks

**Fiscal risks may arise due to the large vertical fiscal gap and the associated reliance on intergovernmental transfers.** A high reliance on federal transfers can weaken fiscal discipline as subnational governments and their creditors may expect the federal government to bear the ultimate responsibility for subnational deficits and debt. The resulting soft budget constraint can create a moral hazard and encourage PLGs to spend above their fiscal means, thus creating a deficit bias in subnational fiscal balances. In addition, limited revenue autonomy reduces the ability of subnational governments to implement fiscal adjustments, because in the absence of revenue related measures spending cuts are their only available policy instrument.

**Slow subnational progress in revenue mobilization means that large vertical gaps are likely to persist in the medium term.** Subnational own-source revenue collection remains marginal, with local revenue and grants accounting for only 0.87 percent of GDP in FY20. In addition to limited own-source revenue assignments, a 2019 study by the Samriddhi foundation finds that there is a general underuse of subnational tax sources<sup>27</sup>: of 74 local

governments surveyed, 72–74 included property, vehicle, and business taxes in their Finance Act; however, only 66 had a land tax, 63 a herb or livestock tax, and only 9 had a house and land registration tax. Underuse of tax sources is compounded by implementation challenges, as there is limited supporting data (for example, on property values) to facilitate local property tax collection. Tax rates also exhibit high variability across jurisdictions, with some provinces levying excessively high tax rates for business and natural resource taxes, for instance.

**The timing of resource ceiling announcements and subnational budget preparation results in large unspent cash balances at the subnational level that contribute to soft budget constraints.** Nepal's constitution stipulates that the Minister of Finance must present the budget to the federal parliament on the 15th day of Jesta (mid-May), while the Intergovernmental Fiscal Arrangement Act states that provincial governments must submit their budgets to their respective provincial assemblies by the 1st of Ashar (mid-June), and local governments by the 10th of Ashar. These timings give PLGs inadequate time to prepare their budgets. The resulting inadequately prepared budgets have led to large unspent balances accumulated by PLGs, which accrue to them and add to weak incentives for fiscal prudence and own-source revenue generation.<sup>28</sup>

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## 2.4. POLICY RECOMMENDATIONS: REFORMING INTERGOVERNMENTAL TRANSFERS TO CLOSE HUMAN CAPITAL GAPS

**Nepal has come a long way in implementing federalism, but final reforms to the intergovernmental fiscal framework are necessary to complete the transition.** As the country moves towards finalizing the transition, it will need to complete the devolution process as envisioned by the constitution, including the sustained high level of federally controlled spending and the reluctance of PLGs to

use untied resources for social sectors. As highlighted in this chapter, this will require setting credible service delivery standards and norms, clarifying the roles and adjusting the design of transfers, and strengthening subnational fiscal incentives. This section lays out a policy roadmap sequenced over three stages to achieve this objective.

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<sup>27</sup> See also chapter 3 for a further discussion of subnational revenue.

<sup>28</sup> In contrast, unspent balances for federal ministries and conditional grants revert to the federal treasury at the end of the year.

### 2.4.1. Immediate priorities: addressing implementation problems during the transition process

**Articulating a clear relationship between constitutional mandates and funding sources:** The unique trajectory of Nepal's fiscal federalism transition has resulted in a lack of clarity on the relationship between funding sources and expenditure mandates. This is a key issue that needs to be addressed in order to complete the federalism transition. This involves, at a minimum:

- a) **Setting affordable and achievable service delivery standards and norms:** Setting standards needs to balance affordability, achievability, and ambition, and requires an iterative process between the different tiers of government to consider heterogeneity in needs and delivery costs. The National Coordination Council, established as part of the Federal, Provinces and Local Levels (Coordination and Interrelation) Act, 2020, offers a unique vehicle to lead such a process. The process could be informed by NNRFC's ongoing work to refine the allocation fiscal equalization formula (using a fiscal gap approach), which includes methodologies to set affordable norms and standards.
- b) **Clarifying the role of equalization grants:** PLGs have interpreted untied resources as intended for exclusive spending, which has resulted in underspending on concurrent areas, especially health and education. The NNRFC could consider clarifying that fiscal equalization grants should co-fund all the constitutional service delivery and infrastructure investment mandates of PLGs, including concurrent functions and those (partially) supported by conditional grants.
- c) **Transitioning conditional grants in line with the constitution:** The federal government continues to use conditional grants as a source of funding for the recurrent provision of public services that are exclusive powers to PLG levels. To achieve the vision outlined in the constitution, the federal government could revisit the extent to which it is appropriate to rely on highly earmarked conditional grants, and instead gradually reduce earmarking in the system. Such a transition could also involve ending the current practice of "delegated spending authority".

**Strengthening the legislative framework to ensure the NNRFC's timely input into the intergovernmental budget process:** Nepal's budgeting process gives PLGs limited time to prepare their plans and budgets, which

results in large unspent cash balances. Nepal could consider communicating the intergovernmental allocation of fiscal resources before the budget formulation process starts at PLG levels. This could, for instance, be achieved by amending the Intergovernmental Fiscal Arrangements and the Financial Procedure and Fiscal Responsibility Acts, or by passing an annual Division of Revenue Act (as is being done in Kenya and South Africa), which could be prepared by the NNRFC.

### 2.4.2. Medium-term measures: accelerating the rollout of a mature fiscal framework

**Transitioning to a mixed grant system:** For technical and political reasons, it is unlikely that existing conditional grants for concurrent services (funding wages and frontline education, health, and other key services) will fall away in the foreseeable future. As such, the government of Nepal could seek to enhance local service delivery performance in the context of a mixed grant system that combines conditional as well as unconditional grants. Transitioning to such a system could involve the following elements:

- a) **Distributing equalization grants based on a simple estimation of expenditure needs and establishing hard budget constraints:** The NNRFC could develop a clear, simple, and transparent methodology to estimate PLGs expenditure needs and determine fiscal gaps. These estimates can then be used as a basis to distribute fiscal equalization grants, after subtracting the expenditure requirements already funded by conditional grants. Not only would this provide clear and realistic service delivery expectations for PLGs, it would also enable the implementation of a system in which "finance follows function" and a more equitable horizontal distribution of grants.
- b) **Changing the nature of conditional capital grants:** Although local governments have constitutional responsibility for delivering local infrastructure and services, conditional grants play a critical role in steering subnational funding towards areas with cross-jurisdictional externalities and as a useful policy tool for jump-starting the development of local-level institutional capacity. Realizing these benefits of conditional grants could involve transitioning to a unified block grant scheme which has just one scheme per major concurrent function area. Such a system can provide formula-based resource ceilings to the local level for a designated sectoral objective, with local governments given reasonable discretion to pursue that objective locally.

**c) Implementing performance-orientated, unconditional grants:**<sup>29</sup> The combination of conditional and equalization grants can be complemented by leveraging the provision for matching grants to establish unconditional performance grants that encourage local governments to spend an increasing share of untied resources on concurrent mandates. Australia, for instance, uses national agreements that outline targets in select service delivery areas. These targets are monitored and progress towards them is published regularly, providing a high degree of accountability. At the same time, subnational governments have substantial flexibility in delivering services to achieve the agreed-upon outcomes.

**d) Clarifying the use of matching and special grants:** The constitution also introduces matching (complementary) and special grants, although these have not yet been consistently implemented. The government could consider revising the Intergovernmental Fiscal Arrangements Act to clarify the relation between matching and conditional grants, and to use matching grants to introduce performance elements in the intergovernmental funding allocation (see above). Similarly, special grants could be reserved as a funding source for special cases, such as federal disaster relief or as a pass-through for federal social protection programs.

**Improving own-source revenue collection:** Own-source revenue is critical to establish accountability and reduce subnational dependence on transfers. However subnational tax administration and policy remains at an early stage, and there are many suboptimal policy choices. To overcome these, PLGs need support from the federal authorities to seek more optimal utilization of their own-source revenue instruments, including non-tax instruments such as user fees and tariffs, betterment levies and

development charges. Support could, for instance, take the shape of federal guidelines that outline best practices and give indicative maximum and minimum tax rates for different bases.

### 2.4.3 Longer-term measures: strengthening intergovernmental regulatory institutions

#### **Establishing a mechanism to clarify and revise functional assignments on an ongoing basis:**

International experience suggests that, after transitioning to a federal model, conflicts over mandates, functions and resources between national ministries and subnational governments can damage the overall effectiveness of the public sector. As such, Nepal can consider establishing a mechanism that reconfirms the assignment of functional responsibilities on an ongoing basis. The Intergovernmental Fiscal Council, established through the Intergovernmental Fiscal Arrangements Act, provides a potential vehicle to this end. This could help prevent overlap between federal and provincial as well as local functional and spending responsibilities and guide results-based local planning and budgeting.

#### **Establishing a framework to support and regulate subnational borrowing:**

Although PLG borrowing is unlikely to become a major source of funding until the main (vertical and horizontal) accountability mechanisms have stabilized, it would be appropriate to explore long-term financing mechanisms that could serve creditworthy provincial and urban local governments that need to finance major, bulky infrastructure. This is particularly relevant for PLGs looking to invest in economic infrastructure that will directly or indirectly generate additional revenues, such as toll roads, markets, water and sanitation infrastructure, or climate-resilient urban infrastructure. This would also allow and incentivize PLGs to focus on exploiting their own fiscal space, rather than rely on intergovernmental transfers.

<sup>29</sup> Performance grants can also be used to encourage the adoption of subnational service delivery and PFM systems to ensure that available funds are spent more effectively. The PER in the human development sectors provides a discussion of how such transfers can be designed.

**CHAPTER 3**

# Revenue



*Nepal collects more revenue than peer countries due to a strong performance of indirect import taxation. A review of the country's four main taxes—VAT, corporate income tax, personal income tax and customs duties—identifies key reforms to widen the tax net, encourage job creation and strengthen tax administration.*

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## 3.1. INTRODUCTION

**Nepal's tax performance has historically been strong due to significant revenue collection from imports.** In FY19, Nepal collected tax revenue equivalent to 19.1 percent of GDP, which is significantly above levels achieved by its regional and global peers. Almost half of this—47 percent of total revenue in FY19—is levied on imports and collected at the border through the VAT, excise, and customs duties. Over 60 percent of VAT collection alone is collected from imports.<sup>30</sup> The import dependence of revenues is a direct result of Nepal's growth model, in which remittance inflows from out-migrating workers are used to finance consumption. As Nepal is a landlocked country, this generates a large import bill – 41.5 percent of GDP in FY19 - which results in a large and easily enforceable tax base, as goods must pass a border checkpoint and inspection.

**While relying on import taxes can generate significant revenues in good times, it does come at a cost.** A high import dependence of revenues exposes government finances to external vulnerabilities. This became evident during the COVID-19 pandemic, when trade restrictions led to a collapse in imports, contributing to financing shortfalls and constraining the government's ability to mount a comprehensive fiscal response to the crisis. In addition, import duties – a key source of import tax revenue - can distort firms' production choices and discourage exports by protecting domestic markets.

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<sup>30</sup> VAT paid on imports is creditable against output VAT liability for producers in later stages of the production chain.

**This chapter identifies policy options to complement import taxation with domestic revenue growth and to support job creation.** The chapter proceeds in three sections. Section 4.2 provides an overview of Nepal's recent revenue performance to establish a stylized fact: that Nepal's revenue performance is exceptional due to strong revenue collection at the border. Section 4.3 reviews Nepal's four main taxes—VAT, corporate income tax, personal income tax and import duties—to identify opportunities for domestic tax base expansion and reducing tax distortions. Finally, Section 4.4 provides an

actionable policy roadmap based on the discussion in the preceding sections.

**This chapter takes stock of how the implementation of federalism has impacted spending.** Section 2.2 provides an overview of how federalism has affected the amount and allocation of public expenditures, emphasizing that federalism has elevated aggregate spending while the federal level still retains control over spending in many devolved and shared areas. Section 2.3 identifies the institutional challenges in the intergovernmental fiscal.

## 3.2 NEPAL'S REVENUE PERFORMANCE

### 3.2.1. Nepal has a broad-based tax code

**Nepal's tax code contains provisions for direct and indirect taxation.** The legal framework for direct taxation is based on the 2002 Income Tax Act, which differentiates between income earned by individuals (including self-employment), corporate profits, investment income and capital gains (Table 3.1). The personal income tax schedule is progressive, with marginal tax rates ranging between 10 and 36 percent on taxable income above a tax-free allowance of NPR 400,000 for individuals and NPR 450,000 for couples.<sup>31</sup> Corporate profits are taxed at a standard 25 percent rate, although rate differentials exist between sectors. Dividend taxes are withheld at source at a 5 percent rate and capital gains are taxed through a withholding scheme that levies

a 10 and 15 percent tax rate on individuals and firms, respectively.

**Indirect taxes are levied on sales, imports, and production.** VAT is levied on imports and sales of firms. All firms with an annual turnover exceeding NPR 5 million per year for those trading in goods and 2 million for those trading in services (or in a mix of both) are required to register for VAT.<sup>32</sup> The standard VAT rate is 13 percent, with exemptions for selected products, services, and sectors. Exports are zero-rated. Imports are also taxed through import duties whose rates vary by product but average about 10 percent. Finally, in addition to duties and VAT, the production and import of select items, including tobacco, cigarettes, and alcoholic beverages, is taxed through excise duties.

**Table 3.1.** Overview of main taxes (not exhaustive)

Tax	Tax base	Standard rate (%)	Revenue as share of GDP, FY19 (%)
<b>Direct taxes</b>			
Corporate income tax	Corporate earnings and investment income earned by firms	25	3.2
Personal income tax	Income from labor and investment income earned by individuals	10, 20, 30, or 36, based on earnings	1.3
Capital gains tax	Realized gains on asset sale	10 (individuals) 15 (firms)	0.3
Dividend taxes	Withholding tax on dividend earnings	5	0.2

<sup>31</sup> Nepal also levies a 1 percent social insurance tax on all incomes, irrespective of whether they are above or below the tax-free threshold.

<sup>32</sup> Firms with lower turnover can register for VAT on a voluntary basis.

Tax	Tax base	Standard rate (%)	Revenue as share of GDP, FY19 (%)
<b>Indirect taxes</b>			
VAT	Sales (input tax credit available)	13	7.3
Excise	Production and import of excisable items, including tobacco, cigarettes, liquor, motor vehicles, selected petroleum products, paints, air conditioners, dishwashers, washing machines	Varies by product	3.6
Import duties	Import of goods and services (and limited export taxes*)	Varies by product, 10 on average	4.2

**Source:** World Bank staff calculations, based on VAT, Customs, and Income Tax Acts of Nepal.

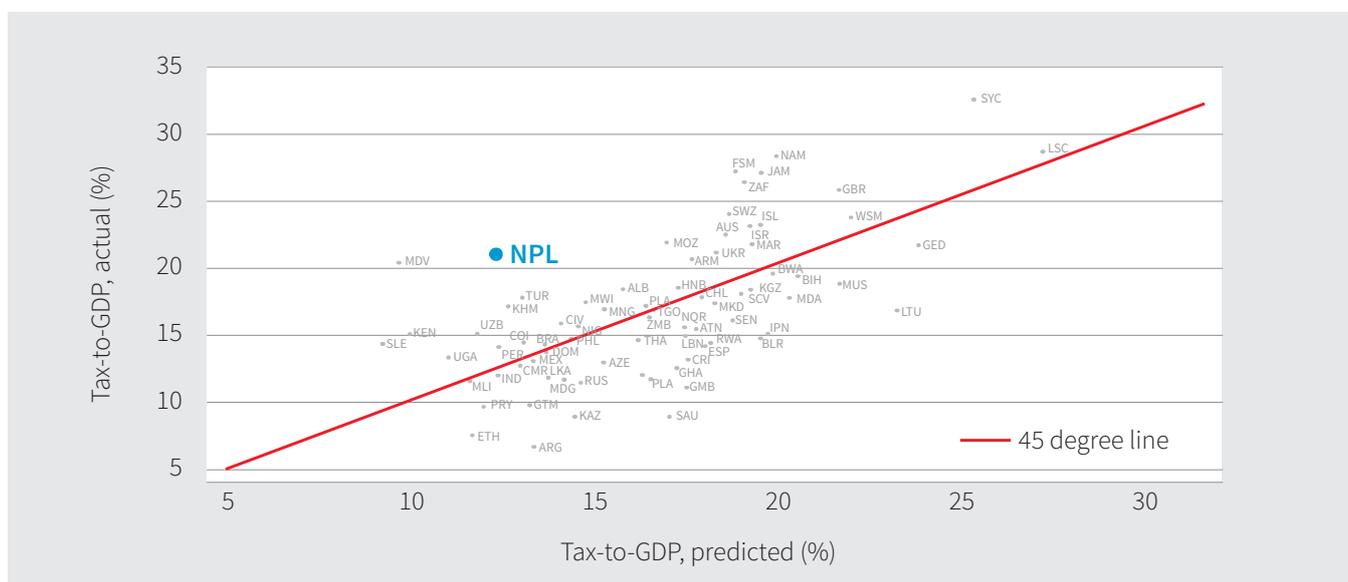
**Note:** \* Export taxes are applied on basic agricultural products and raw building materials, including wood.

### 3.2.2. Nepal's revenue performance is driven by the indirect taxation of imports

**Nepal collects more revenue than its regional and global peers.** A regression approach that predicts a country's tax-to-GDP ratio based on macroeconomic, demographic, and institutional characteristics<sup>33</sup> highlights that Nepal in FY19 collected over 50 percent more tax revenue than predicted (Figure 3.1).<sup>34</sup> This is the second highest deviation from the predicted value in a sample of 82 countries, behind only the Maldives and significantly

above its other South Asian peers. This performance is linked to high VAT and customs collections. By contrast, Nepal's direct tax collection from individuals is low and lies 40 percent below the level predicted by the regressions.

**Tax collection has experienced considerable growth since 2006.** Nepal's revenue performance over the last 20 years can be divided in two periods (Figure 3.2). During the first period (FY01–FY06), which includes the civil war, tax collection remained relatively stagnant at 7–8 percent of GDP. Starting in FY07, the second period was marked



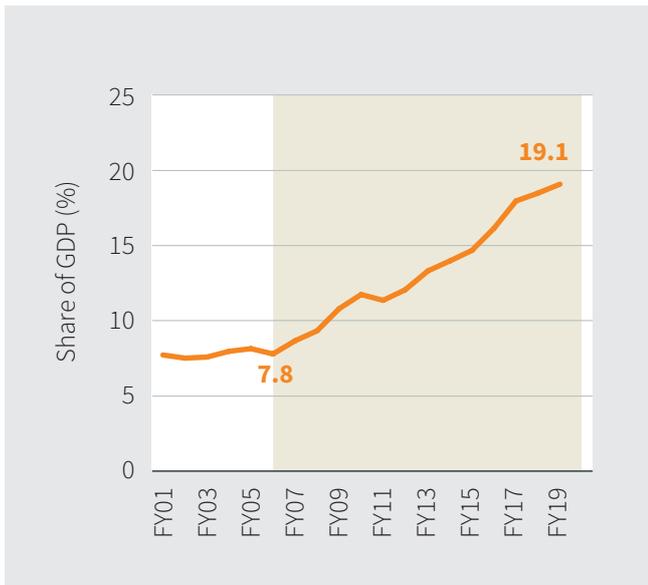
**Figure 3.1.** Tax collected vs. tax potential (FY18)

**Source:** Based on data from Ministry of Finance, Nepal; IMF 2020; World Bank 2021a; and World Bank 2021b.

**Note:** Data correspond to budgetary central/federal government level.

<sup>33</sup> Exogenous variables include per capita GDP at power purchasing power (current international \$); share of agricultural value added in GDP; ratio of imports plus exports to GDP; annual population growth of 15–64-year-olds; control of corruption index from the World Bank's World Governance Indicators; a land-locked dummy variable; and ratio of received remittances to GDP. Data for the analysis was obtained from IMF 2020, World Bank 2021a, and World Bank 2021b.

<sup>34</sup> The approach follows the methodology proposed by methodology proposed by Le, Moreno-Dodson, and Bayraktar (2012).

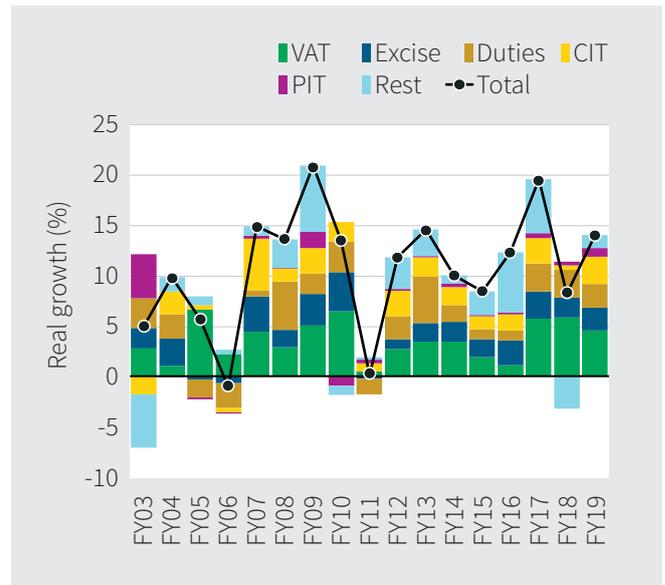


**Figure 3.2.** Tax revenue (FY90–FY19)

**Source:** World Bank staff calculations, based on data from the Ministry of Finance, Nepal (before FY01) and IMF 2020 (from FY01).

by considerable tax revenue growth, which expanded at an average real rate of 12.6 percent per year to reach 19.1 percent of GDP in FY19. While revenue from all sources expanded, indirect taxes account for the most growth, with VAT, excise and import duty revenue contributing an annual average of 3.7, 2.1 and 2.2 percentage points to total tax revenue growth between FY07 and FY19 (Figure 3.3).

**About half of total fiscal revenue is collected at the border.** A high dependence on taxes levied on imports,

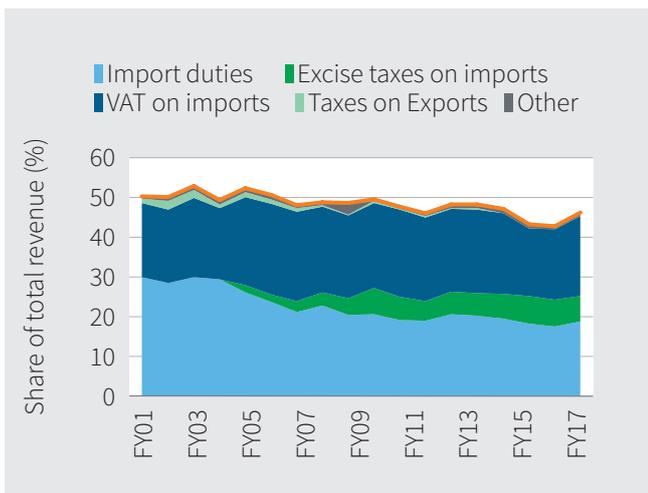


**Figure 3.3.** Contribution to tax revenue growth, by tax type

**Source:** World Bank staff calculations, based on data from Ministry of Finance, Nepal.

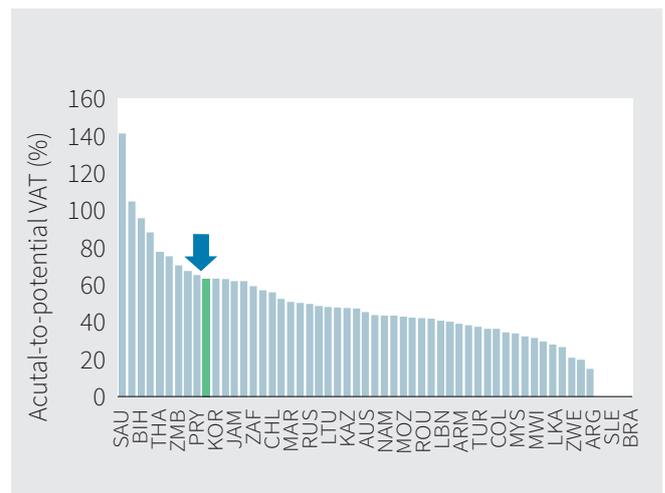
**Notes:** Duties = import duties, CIT = corporate income tax, PIT = personal income tax.

including VAT, excise, and customs duties, is a long-standing feature of Nepal’s fiscal revenue structure. In FY19, almost 19 percent of total fiscal revenue corresponded to import duties, 7 percent to excise taxes on imported goods, and 21 percent to VAT on imported goods (Figure 3.4).<sup>35</sup> While direct tax revenue has also grown in recent years, it only accounts for 26 percent of total tax revenue.



**Figure 3.4.** Taxes on imports as a share of total revenue, FY01–FY18.

**Source:** World Bank staff calculations, based on data from the Ministry of Finance, Nepal.



**Figure 3.5.** VAT C-efficiency (FY18)

**Source:** World Bank staff calculations, based on data from the Ministry of Finance, Nepal; IMF 2020; KPMG 2020; and World Bank 2021a.

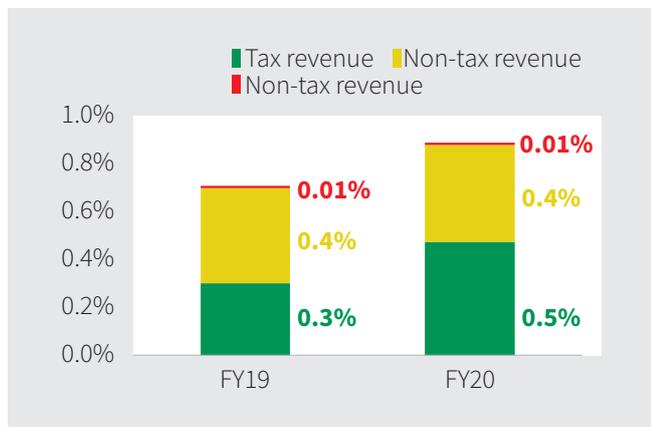
<sup>35</sup> There is evidence that the reliance on taxes collected at the border increases Nepal’s vulnerability to external shocks. See the background paper on tax policy produced for this PER for additional details.

### 3.2.3. Subnational revenue collection remains in early stages

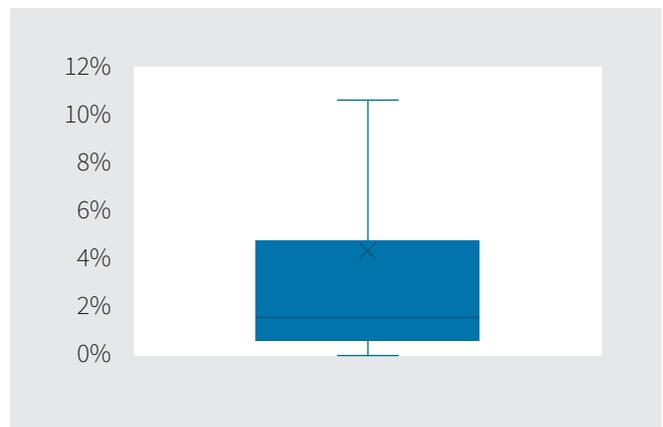
**Local revenue collection accounts for only a small share of GDP.**<sup>36</sup> Nepal's constitution assigns select tax and non-tax revenue sources to local governments. Property taxes account for most local tax revenue (about 0.4 percent of GDP in FY20) and comprise of land, house rent and institutional as well as individual property taxes. Local governments also collect revenue through levies on select goods and services, including entertainment, vehicles, and health services, and by imposing local business taxes. The aggregate contribution of these sources is, however, comparatively minor and accounted for only 0.01 percent of GDP each in FY20. In addition to tax revenue, local governments also collect non-tax revenue, which accounted for about 0.4 percent of GDP in FY20 (Figure 3.6). Among these, 0.22 percent of GDP were collected through service charges for electricity and water supply, waste disposal and the issuance of certificates, among others. Income from property owned by local governments contributed 0.08 percent of GDP to non-tax revenues. Including bilateral and multilateral grants, subnational own-source revenue stood at an aggregate of 0.87 percent of GDP or just above 4 percent of general government revenue in FY20, significantly below the shares achieved in other federations.<sup>37</sup>

**There is significant variation across local governments in own-source revenue dependence.** In FY20, the median and average local government only raised 1.9 and 4.8 percent of its total resource envelope through own-source revenue (Figure 3.7). This does, however, mask significant heterogeneity across local governments. For instance, municipalities in the Kathmandu valley – the country's economic and financial center - raised 23.3 percent of their total resource envelope from own-source revenue on average. By contrast, the average municipality in the predominantly rural Karnali province raised only 1.4 percent of their total revenue from devolved tax and non-tax bases.<sup>38</sup>

**Capacity gaps have thus far prevented a full implementation of subnational tax and non-tax revenue collection.** A 2019 study by the Samridhi foundation highlights that the implementation of revenue decentralization remains in transition. As such, the determination of tax rates often occurs on an ad-hoc basis, potentially creating negative spillovers across jurisdictions that are not considered during the policy formulation process. In addition, in many local levels tax administration laws have not yet been fully adopted. There is also anecdotal evidence that some local governments outsource revenue collection to private entities, which can impact the amount of revenue that accrues to the state and can lead to tax farming.



**Figure 3.6.** Aggregate local government own-source revenue, by type (FY19 and FY20)



**Figure 3.7.** Distribution of subnational own-source revenue as a share of total available resources, by local level (FY19)

**Source:** World Bank staff calculations, based on data from the Ministry of Finance, Nepal.

**Notes:** The figure on the right highlights the distribution of the share of own-source revenue in local government's total available resource envelope across local governments. The total resource envelope includes own-source revenue, revenue sharing, royalties, and intergovernmental transfers. The bar in the box highlights the median share of own-source revenue collection in the sample. The upper and lower ends of the box visualize the third and first quartile, respectively. The whiskers show the upper and lower limit of the distribution (excluding outliers). Outliers are defined as observations that exceed 1.5 times the interquartile range. The cross highlights the mean of the distribution. The sample comprises all 753 local levels.

<sup>36</sup> This subsection focuses on local level own-source revenue due to the absence of provincial data.

<sup>37</sup> In Colombia, for instance, subnational governments collect 20 percent of general government revenue, according to the IMF Fiscal Decentralization database.

<sup>38</sup> The revenue sharing and fiscal equalization grant distribution formulas intend to account for differences in local revenue capacity. See also discussion in chapter 2.

## 3.3. A REVIEW OF TAX AND CUSTOMS POLICY

### Nepal collects significantly more revenue than its peers, driven by an exceptional performance of indirect import taxes.

While domestic revenue generation from VAT and corporate income tax has also grown, its contribution to aggregate growth has been more modest. This begs two questions. What are the policy constraints to enhanced domestic revenue generation? And does the reliance on import duties have adverse economic consequences? This section addresses these questions.

### 3.3.1. Nepal's VAT system is effective but narrowly based

#### Revenue mobilization in Nepal's VAT system is comparatively effective.

One way to benchmark the effectiveness of a VAT system in an internationally comparable manner is by calculating C-efficiency. This is defined as the proportion of actual to potential VAT collection, where the latter is the statutory VAT rate multiplied by aggregate final consumption expenditure in the economy.<sup>39</sup> This calculation highlights that Nepal

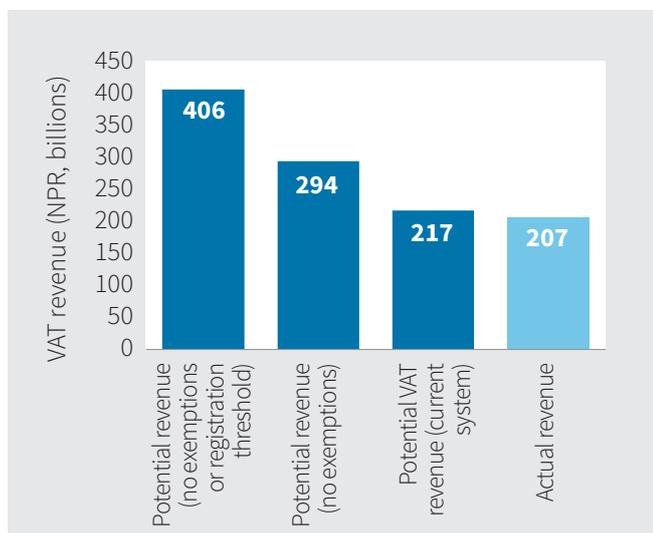
effectively exploits its VAT base. In FY18, its C-efficiency stood at 60 percent, putting it in the top quartile of all countries for which data is available. A more rigorous VAT gap analysis<sup>40</sup> confirms this finding: In FY18 Nepal had VAT revenue potential of NPR 217 billion when considering its exemptions and registration threshold, of which it collected NPR 207 billion, or over 95 percent of its potential (Figure 3.8).

#### There is potential to raise VAT collection by reducing exemptions.

The country grants VAT exemptions to a range of goods and services.<sup>41</sup> While such exemptions can be justified when enforcement costs are high—for example, in the case of basic agricultural products—they erode the tax base and can distort production and consumption decisions. The VAT gap analysis indicates that exemptions cost Nepal about 37 percent of total VAT revenue (Figure 3.8). This foregone VAT is highly concentrated in sectors that produce primary goods, followed by education services (13–19 percent), and animals and animal products (10–12 percent) (Figure 3.9). Exemptions on intermediate goods, such as electrical energy, also have adverse effects on tax revenue as they prevent the indirect taxation of value added in the informal sector.<sup>42</sup>

#### Nepal's VAT exemptions are not effective at reducing the VAT burden on the poor.

Levying VAT can increase prices for consumers either directly, when they purchase a non-exempt product from a registered seller, or indirectly, through products that, despite not being liable for VAT themselves, have been produced using taxed products. Nepal has introduced exemptions on select items—including basic agricultural products—to protect the consumption baskets of the poor from such price hikes. An incidence analysis conducted for this chapter using the World Bank's Commitment to Equity (CEQ) methodology highlights that, despite these exemptions, households spend an almost equal share of their baseline consumption on (mostly direct) VAT (Figure 3.10). As a result, the incidence of VAT is neither progressive nor regressive, which means that the exemptions do not effectively target the poor.



**Figure 3.8.** VAT gap analysis results

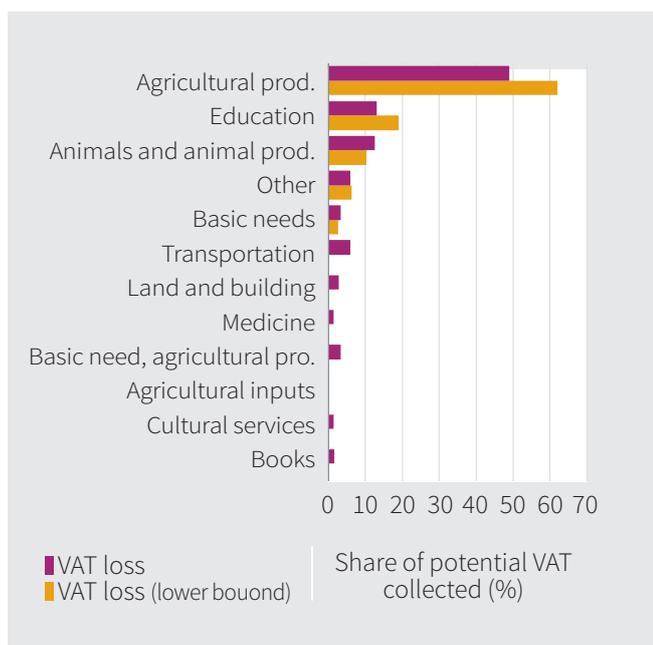
**Source:** World Bank staff calculations, based on Hutton 2017.

<sup>39</sup> As VAT is a tax on consumption, aggregate final consumption expenditure in this case serves as a proxy for the tax base in an internationally comparable manner.

<sup>40</sup> The VAT gap analysis is based on the IMF's Revenue-Administration Gap Analysis program methodology (Hutton 2017) and relies on supply-use tables that are used to estimate an economy's total VAT potential, accounting for typical VAT system features such as: zero-rating of exports; applying input credit; registration thresholds; and exemptions for sectors, products, and services.

<sup>41</sup> These include basic agricultural products; basic needs goods; live animals and animal products; agricultural inputs; medical items and health services; books, newspapers, and other printed materials; passenger and goods transport; personal and professional services; the purchase, sale and rental of commercial and residential buildings and land; gambling; and various other goods and services. As is international practice, exports of goods and services are zero-rated.

<sup>42</sup> See Waseem (forthcoming) for an example.



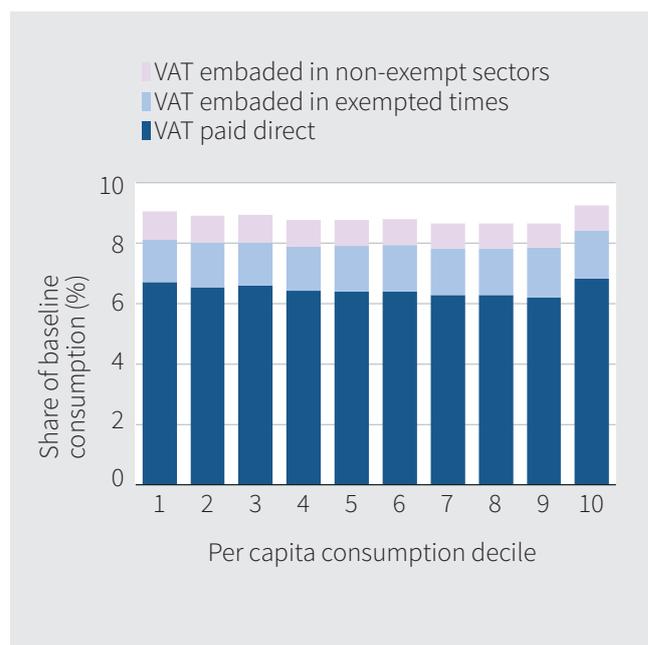
**Figure 3.9.** Potential VAT lost due to exemptions, by sector

**Source:** World Bank staff calculations, based on Hutton 2017.

**Notes:** In many cases, the specific exemptions cannot be mapped directly to consumption groups in the supply-use tables (SUT) that are used to calculate the potential VAT loss. This figure therefore reports two estimates: a main estimate in which categories in the SUT are assigned to exemptions according to their consumption shares in household surveys, and a lower-bound estimate in which categories in the SUT table are only treated as exempt when all items within that category are exempt.

**VAT exemptions are pervasive in Nepal because there are limited administrative hurdles to issuing them.** Nepal’s VAT legislation allows exemptions to be issued through delegated legislation. Schedule 1 of the VAT Act (item 27 of Group 11) provides the government with unconditional power to grant exemption or refund VAT already collected. While this provision provides the government with flexibility to respond to adverse revenue shocks, it also imposes the risk that VAT exemptions are used for purposes not directly related to revenue strengthening.

**Nepal does not have a presumptive tax scheme that levies VAT on turnover for smaller firms.** Only firms with an annual taxable turnover of more than NPR 2 million for services and 5 million for goods are required to register for VAT. This dual threshold complicates tax enforcement and provides an avenue for suppliers dealing in both goods and services to reduce their tax liability. Estimates from the VAT gap analysis further highlight that the comparatively high threshold has fiscal costs, as Nepal could have theoretically collected NPR 112 billion in additional tax revenue in FY18, compared with a counterfactual in which all firms would have to register for VAT (Figure 3.8). In practice, however,



**Figure 3.10.** Incidence of VAT, by consumption decile

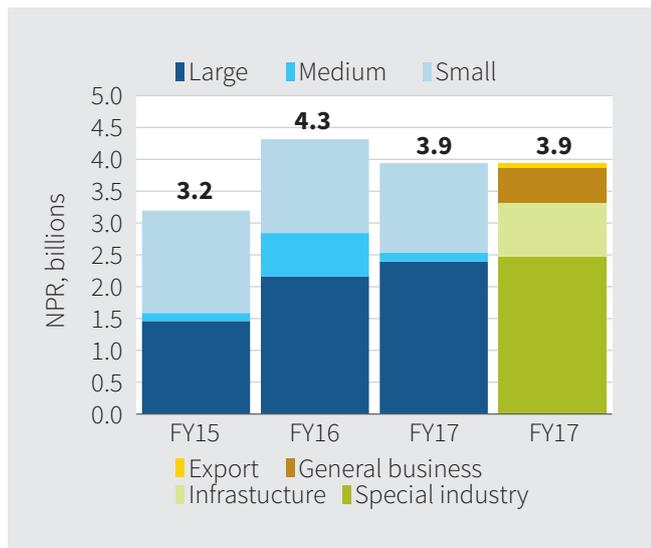
**Source:** World Bank staff calculations, based data from the Nepal Living Standard Survey using the World Bank’s CEQ methodology.

the extent to which reducing the registration threshold can lead to increased revenue is limited, as a lower registration threshold will include smaller and predominantly informal firms into the tax net for which enforcement can be costly. Other countries have resolved this tension by introducing a presumptive tax scheme that replaces the VAT for small firms with a tax collected on turnover (see, for example, Best et al. 2015).

### 3.3.2. Corporate income taxation features complex and costly incentives

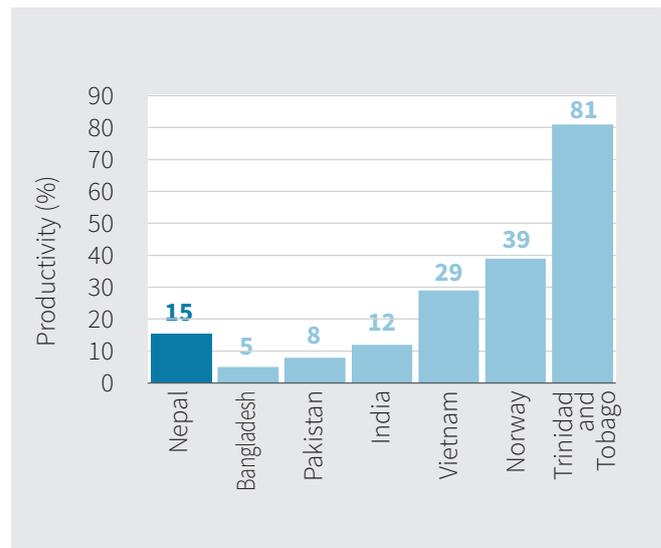
**Nepal’s corporate income tax system allows for multiple tax rates that range from 0 to 30 percent, depending on the industry, the taxpayer’s geographic location, and the number of workers employed (Table 3.2).** The multitude of corporate income tax incentives reflects the government’s desire to direct investment into selected industries or more remote locations, and to stimulate labor-intensive manufacturing in the country. To date, the extent to which the objectives of such income tax incentives have been achieved has not yet been evaluated.

**Anecdotal evidence suggests that on their own, tax incentives have had limited impact on attracting economic activity to more remote areas.** Nepal’s corporate tax incentives take a place-based approach, encouraging firms to locate and generate jobs in more remote areas. However, corporate tax collection remains



**Figure 3.11. Cost of tax exemptions**

**Source:** World Bank staff calculations, based on data from DFID 2019.  
**Note:** The decomposition of the right-hand side (brown/tan colored) column is by industry, while the rest are decomposed by firm size.



**Figure 3.12. Productivity of the corporate income tax**

**Source:** World Bank staff calculations, based on data from DFID 2019.  
**Note:** The productivity of institutional income tax is calculated by dividing the ratio of institutional income tax revenue to GDP by the institutional income tax rate.

highly dependent on the Bagmati Province, home to the capital city Kathmandu. The province accounts for 21 percent of the country’s population and accumulates 40 percent of the registered income taxpayers and 77 percent of total tax collection. It also accounted for the largest contribution to the growth of the income tax registry between FY15 and FY18.

**Corporate income tax incentives impose fiscal costs.** According to a study undertaken by the United Kingdom’s

Department of International Development,<sup>43</sup> Nepal loses 12 percent of total revenue or 3.1 percent of GDP to exemptions for institutional taxpayers (DFID 2019; Figure 3.11). Almost two-thirds of these costs benefit large taxpayers. This has adversely impacted Nepal’s corporate income tax productivity which, despite exceeding regional peers, lags aspirational peers such as Vietnam (Figure 3.12). Aside from fiscal costs, complex tax incentives can also impose economic costs by distorting firms’ industry, location, and scale choices (Diamond and Mirrlees 1971).

**Table 3.2. Overview of Nepal’s corporate income tax**

Corporation category	Basis of concession	Tax rate (%)
Standard	-	25
Bank, financial institution, or general insurance business	Industry	30
Petroleum	Industry	30
Tobacco-related	Industry	30
Special	Industry	20
Exporting entities	Industry	20
Entities operating roads, bridges, trams, and so on.	Industry	20
Building public infrastructure	Industry	20
Power generation, transmission, or distribution	Industry	20

<sup>43</sup> Now Foreign, Commonwealth and Development Office.

Concessionary categories	Basis of concession	Concessionary tax rate
Employing more than a given number of Nepalese citizens	Industry and employment	As low as 70% of normal rate
Located in remote, undeveloped, or underdeveloped areas	Industry and location	As low as 10% of normal rate
Located in special economic zones in mountain areas, hill areas, and others	Industry and location	As low as 0% of normal rate

**Source:** World Bank staff calculations, based on Nepal Income Tax Act 2020.

**More analysis using micro-level data is needed to** assess the effectiveness of Nepal’s corporate income tax incentives. The arguments presented thus far have highlighted a trade-off in Nepal’s corporate income tax system. On the one hand, the incentives are costly, as they lead to tax expenditures and can distort firms’ production choices. International evidence on their effectiveness is also mixed.<sup>44</sup> On the other hand, they might incentivize firms to pursue activities that generate

additional social value. Assessing this trade-off requires an empirical examination of the extent to which firms respond to the incentives provided by the corporate income tax system. The necessary microdata for this exercise is available in the Internal Revenue Department’s corporate tax records but are not publicly available and could not be obtained for this report.

## 3.3. A REVIEW OF TAX AND CUSTOMS POLICY

### 3.3.3. Nepal’s personal income tax is constrained by a high tax-free allowance

**Personal income tax collection remains at comparatively low levels.** In FY19, only 6 percent of total tax revenue was collected through personal income tax. With a tax productivity of 4 percent, Nepal also falls significantly below the global average of 22 percent (DFID 2019).

**Nepal’s income tax exemption threshold is set suboptimally high, leaving high-earning salaried individuals outside of the tax net.** A lever to increase tax potential is to include more taxpayers in the tax base by lowering the exemption threshold.<sup>45</sup> A key determinant of whether this is possible is the share of formally employed (i.e. salaried) individuals that have an income below the tax-free allowance (Jensen, 2019). This is because the income of salaried individuals leaves a paper trail through which the personal income tax can be enforced. In Nepal, the threshold is currently set just below the 9<sup>th</sup> decile of the

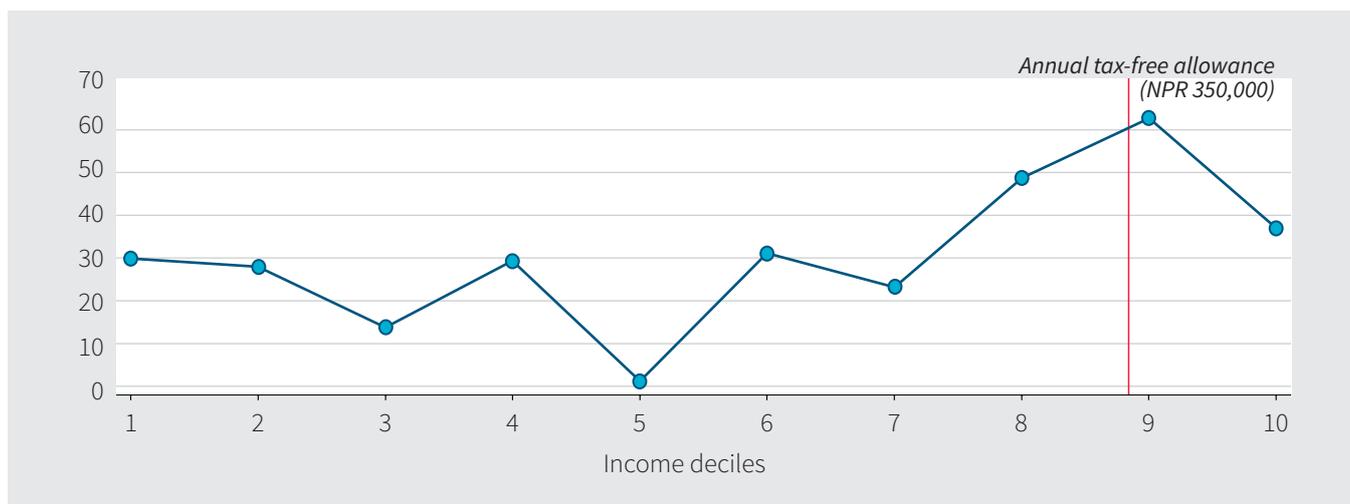
income distribution, which means that the country foregoes the revenue potential of a high share of salaried individuals between the 8<sup>th</sup> and 9<sup>th</sup> decile (Figure 3.13). Reducing the exemption threshold thus provides a viable avenue towards bringing middle-income earners—particularly employees—into the tax net.

**The income tax system may create incentives for some degree of income shifting.** Top taxpayers, especially those with capital income, have a greater ability to classify income as either wages, dividends, or profits. Nepal’s tax system creates opportunities to use such income shifting to optimize tax liability, because the tax rates on dividend (5 percent) and capital gains (7.5 percent) are low compared to personal and corporate income tax rates. In addition, Nepal’s tax withholding regime is limited<sup>46</sup>, even though withholding has been found to be effective in promoting income tax compliance in settings with high informality (e.g. Brockmeyer and Hernandez, 2019).

<sup>44</sup> See Glaeser and Gottlieb’s (2008), Boarnet and Bogart (1996) for evidence on the limited effects of place-based policies in the US and Chaurey (2017) as well as Lu, Wang, and Zhu (2019) for positive examples from China and India.

<sup>45</sup> Nepal has 767,000 active personal income taxpayers, accounting for less than 4 percent of the working age population (aged 15–64).

<sup>46</sup> Nepal only withholds tax on payments made on account of formally accrued salaries, capital gains, dividends, rental income, and royalties.



**Figure 3.13. Tax-free allowance and share of salaried individuals**

**Source:** World Bank staff calculations, based on Central Bureau of Statistics 2018.

**Notes:** The position of the tax-free allowance vertical line is determined as follows: (1) the tax-free allowance annual threshold is expressed in monthly terms (NPR 29,167); (2) the limits to the 8th and 9th deciles are determined as NPR 24,800 and 30,000 respectively, as the per capita monthly tax-free allowance falls within the 9th decile; (3) the line is set at a proportional distance from both limits. In FY20, the threshold for individuals was raised from NPR 350,000 to NPR 400,000.

### 3.3.4. The import duty structure discourages exports and job creation

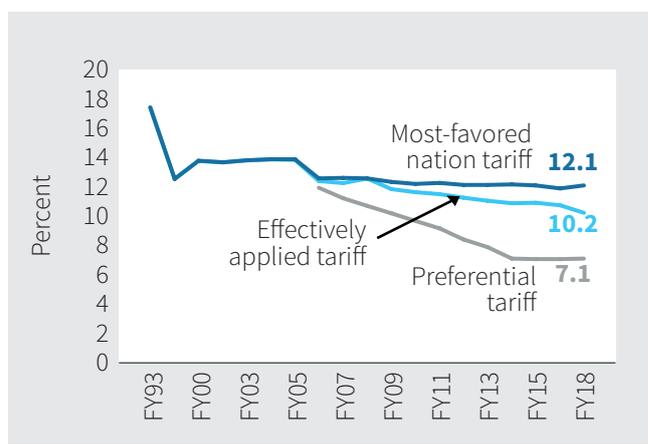
**Tariff rates are high and cascading.** Nepal has a simple average effectively applied tariff rate of 10.2 percent (Figure 3.14), placing it among the world’s top quartile of most-protected countries, and only slightly below its main trading partner, India (10.3 percent). While tariffs have decreased marginally in recent years, this was primarily driven by decreasing preferential tariffs on imports from South Asian Free Trade Area (SAFTA) countries. The tariff schedule follows the cascading principle, placing higher tariff rates on consumer products and lower rates on machinery, raw materials, and intermediates that are used in production (Figure 3.15). In FY18, the average tariff on capital goods, industrial supplies and fuels was 9 percent, whereas on food, beverages, and other consumer goods, it was around 15 percent. This is the result of an explicit government policy.<sup>47</sup>

**A cascading tariff structure reduces production efficiency and discourages exports.** When tariffs are imposed on inputs or capital equipment, firms might substitute away from them to minimize costs, affecting their input mix and production efficiency.<sup>48</sup> When imposed on final goods, tariffs may encourage firms to start producing those types of goods, to benefit from the increased

protection from tariffs. In both cases, and other things being equal, they disincentivize export orientation: in the former because they increase production costs for domestic firms; in the latter, because they increase the relative profits of selling domestically.<sup>49</sup>

#### Nepal’s input tariffs have an anti-job creation bias.

The burden imposed by tariffs—measured as the ratio of



**Figure 3.14. Tariff rates, average across six-digit HS classification**

**Source:** World Bank staff calculations, based on data from WITS UNCTAD TRAINS.

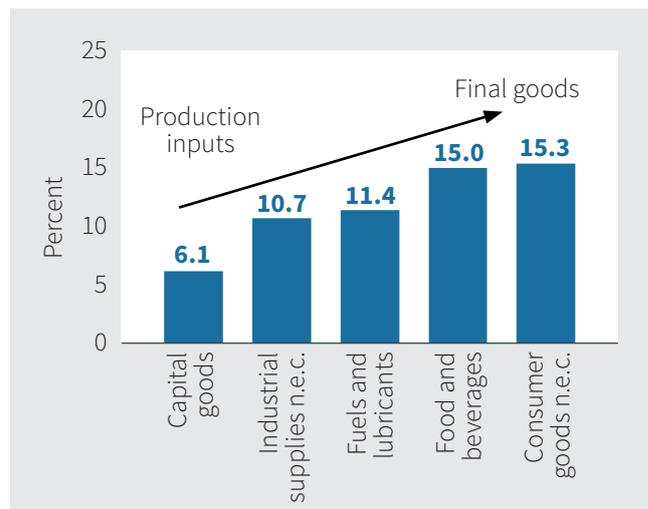
<sup>47</sup> Based on budget speeches delivered by the Ministry of Finance in the Nepalese Legislature-Parliament.

<sup>48</sup> Studies for Indonesia (Amiti and Konings 2007), China (Yu 2015), Pakistan (Lovo and Varela 2020), and India (Khandelwal and Topalova 2011), for example, have found that input tariff reductions have positively affected the efficiency of firms that use these inputs in downstream sectors.

<sup>49</sup> Other factors also matter in determining export orientation, along with the level and structure of import duties.

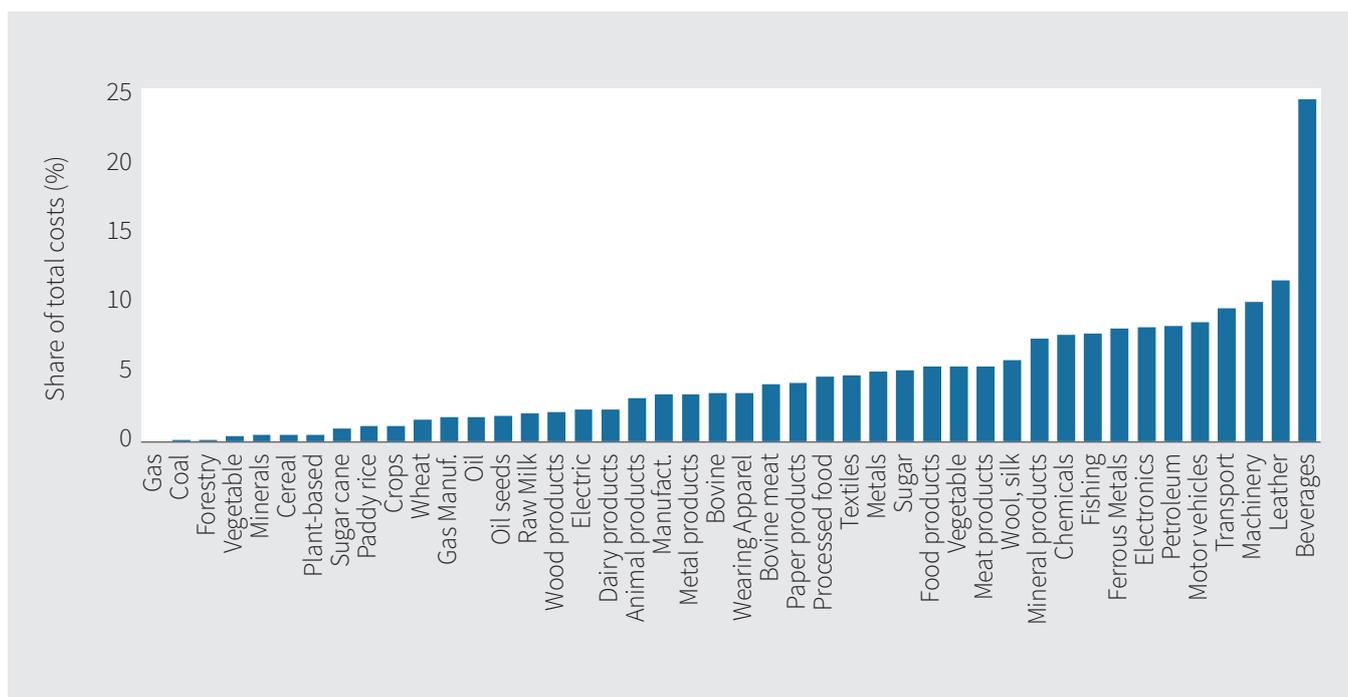
upstream tariffs to total costs—varies considerably between industries: from over 24 percent in the case of beverages, to 7 percent for food production and textiles, and almost zero for energy products such as gas and coal (Figure 3.16). Given that some of the sectors that are more heavily impacted by upstream tariff costs are labor intensive (for example, agribusiness, food, and textiles), the current tariff schedule is detrimental to employment generation because they add an extra cost of production to firms that need intermediate inputs to add value.<sup>50</sup>

**On average, tariffs on final goods offer significant protection and thus discourage exports.**<sup>51</sup> Many sectors—such as wood products, beverages, tobacco, and chemicals—exhibit effective rates of protection of more than 100 percent, offering little incentive to export (Figure 3.17).<sup>52</sup> Other sectors, such as wool or raw milk, instead show negative effective rates of protection, implying that import duties on their intermediates are higher than those on the final product.



**Figure 3.15. Tariff cascading: effectively applied simple average tariff rate, FY18**

*Source:* World Bank staff calculations, based on WITS UNCTAD TRAINS.  
*Note:* n.e.s. = not elsewhere specified



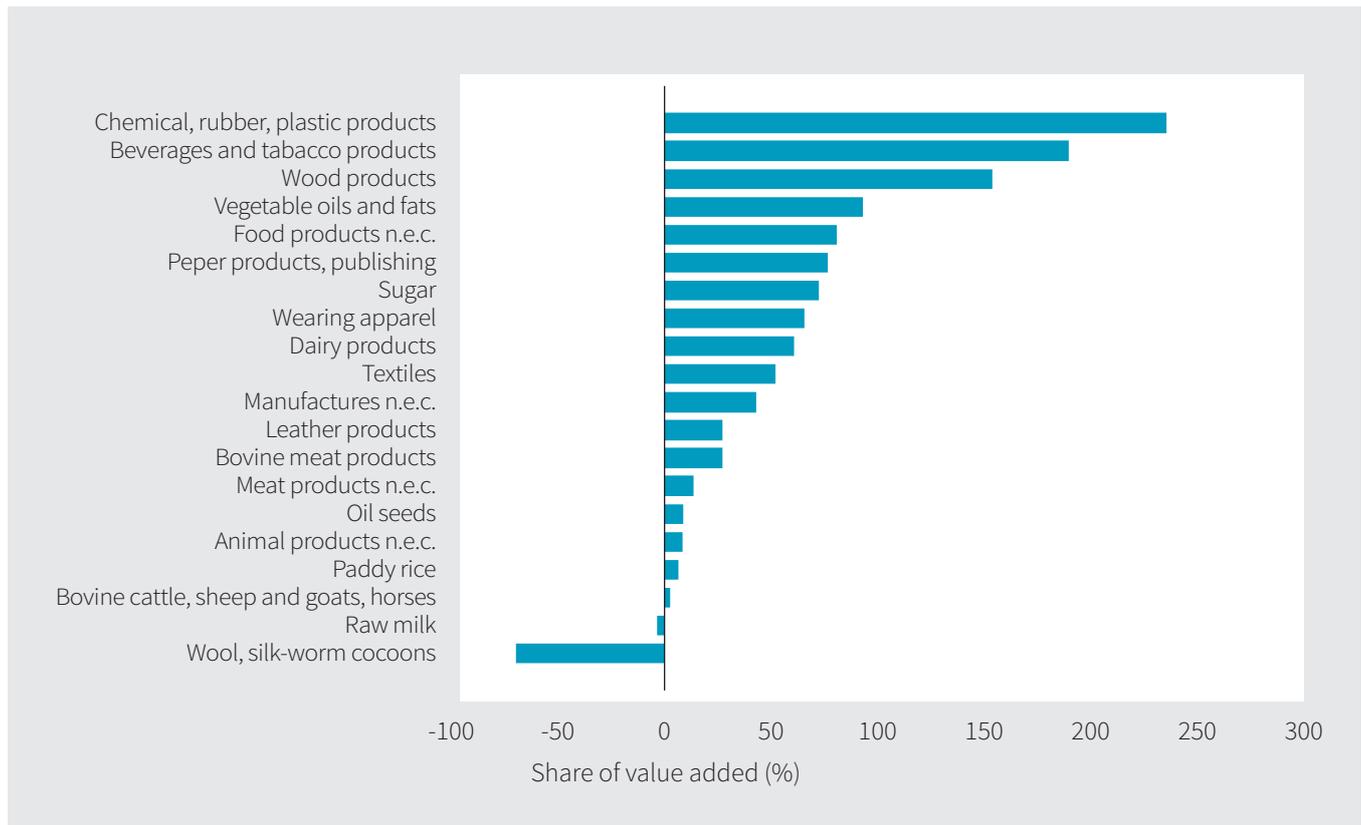
**Figure 3.16. Upstream tariffs, by sector**

*Source:* World Bank staff calculations, based on customs data and Upstream Tariff Simulator (UTAS) under product homogeneity assumption.  
*Note:* Only industries that produce goods are shown.

<sup>50</sup> The labor intensity across sectors is analyzed by examining the jobs embedded in a dollar of exports for countries at a similar level of development as Nepal, relying on the ‘Jobs Content of Exports’ database developed by the World Bank. Among the non-services sectors, agri-business exports show the highest jobs content, with 38 jobs created every US\$1,000,000 exported in median. The textile sector is the most labor intensive within manufacturing.

<sup>51</sup> There is some heterogeneity in tariffs on final goods. The statement refers to average levels.

<sup>52</sup> The effective rate of protection indicator is defined as the protection trade restrictions provide an industry. This considers three elements: the import duties on the final goods produced by the sector; the import duties on the inputs needed to produce the goods; and the amount of value added created in the sector per unit of output.



**Figure 3.17.** Effective rates of protection, by sector

**Source:** World Bank staff calculations, based on customs data and UTAS under product homogeneity assumption.

**Note:** Selected industries. n.e.c. = not elsewhere classified.

## 3.4 POLICY RECOMMENDATIONS: RAISING DOMESTIC REVENUES AND REDUCING DISTORTIONS

**Nepal would benefit from a more balanced tax mix.** As shown in this chapter, the tax system's high dependence on imports has allowed Nepal to generate significant revenue. Select tax policy choices, especially the reliance on import duties, have, however, also adversely affected the economy. A possible reform roadmap can focus on complementing Nepal's impressive revenue performance by strengthening domestic tax bases while also reducing the distortions created by import duties. The roadmap below - structured into three stages - suggests reforms to this end.

### 3.4.1. Immediate priorities: reducing the revenue impact of exemptions

**Reviewing and reducing VAT exemptions:** VAT exemptions in Nepal are inefficient as they complicate enforcement, limit VAT potential, cause tax cascading, and do not effectively protect the poor. A consistent recommendation of public finance analysts has therefore been to eliminate exemptions and use a targeted and means-tested transfer program for redistribution (Institute of Fiscal Studies and Mirrlees

2011). As Nepal does not have a comprehensive transfer program, a second-best alternative could involve adjusting VAT exemptions so that they are better targeted at the consumption baskets of the poor and generate additional revenue. For example, a simulation exercise undertaken for this report highlights that limiting VAT exemptions to items that have a large budget share of the bottom 40 percent could increase VAT revenue by 2 percent and reduce Nepal's poverty rate by 0.2 percentage points.<sup>53</sup>

**Evaluating corporate income tax incentives:** Nepal's corporate income tax regime is complex, and it is unclear whether it achieves its desired objectives of attracting investment and employment to remote areas. As these incentives are costly and their benefits are unknown, a rigorous review of the cost-effectiveness of Nepal's corporate tax code would be important. An alternative tax code - focused on eliminating concessions and using the resulting revenue to develop infrastructure and invest in skills in underdeveloped areas - could be used as a counterfactual for such an analysis.

**Enacting safeguards to delegated legislation:** Nepal's government can introduce tax exemptions on a discretionary basis even though international practice suggests that such actions should remain the prerogative of the legislature. Nepal could therefore consider adjusting its tax code to limit the discretion of the executive branch to issue exemptions or, alternatively, to add safeguards that prevent their excessive application. Examples of such safeguards include requirements that exemptions be accompanied by a statement highlighting why they are necessary and urgent, or for the government to seek annual ex-post approval from the legislature of all exemptions granted and refunds given under this provision. This can be complemented by ex-post evaluations to assess the effectiveness of exemptions and to inform future policies.

### 3.4.2. Medium-term measures: widening the tax net and supporting exports and jobs

**Expanding the personal income tax base:** Nepal's personal income tax exemption threshold could be lowered to bring new taxpayers from the middle and top portions of the income distribution into the tax net. Piketty and Qian (2009) show that a politically feasible way of reducing the real exemption threshold can involve maintaining the nominal income tax exemption threshold for a long time. As the economy grows (and prices rise) new taxpayers will cross the exemption threshold each year, expanding the tax base at almost no political cost.

**Closing opportunities for income shifting:** Differential taxation of capital gains, dividends, business profits and corporate income generates opportunities for high-earning taxpayers to shift their income across different sources, thus reducing their tax liability. To close such opportunities, Nepal could consider gradually raising the tax rate on dividends and capital gains, making them comparable to corresponding wage and profit income rates.

**Reducing the adverse economic impacts of duties:** Tariff reform needs to consider its impact on revenue, protection of the domestic market, and firms' input costs. One the one hand, reforms can focus on reducing tariff cascading, i.e. the difference between final and inputs tariffs, which can be achieved by increasing input tariffs or reducing final good tariffs, and can reduce effective protection and enhance firms' incentive to export. Alternatively, tariff reform can focus on reducing input tariffs, thereby lowering production costs, and enhancing economic efficiency. Simulations emphasize the trade-off between revenue, export incentives and firms' input costs four potential reform scenarios:<sup>54</sup>

1. **Introducing a flat 10 percent tariff on all goods:** This would reduce effective protection and the anti-export bias but reduce tax revenues by 4.1 percent.
2. **Introducing a flat 11.9 percent tariff on all goods:** This would reduce effective protection and the anti-export bias in a revenue-neutral manner but increase input costs of most industries.
3. **Reduce tariffs on intermediate and capital goods by 5 percentage points:** This would reduce input costs by an average of 2 percent but reduce tax revenues by 8 percent.
4. **Set a 5 percent tariff for intermediate and capital goods, and a 10 percent tariff for all other goods:** This would reduce price distortions and marginally reduce input costs by an average of 1.4 percent and reduce tax revenues by 5.1 percent.

### 3.4.3. Longer-term measures: strengthening tax enforcement

**Introducing an adjustable border tax:** An adjustable withholding tax on imported firm inputs, which can be credited against firms' direct tax liability, is a desirable tax policy instrument as it combines the ease of enforceability of a border tax with the economic efficiency of an income tax. For this reason, adjustable withholding taxes have been adopted widely across the world. Argentina, for example, charges a withholding tax on imports at 3 percent, Pakistan

<sup>51</sup> See the background paper on tax policy produced for this PER.

<sup>52</sup> See the background paper on trade policy produced for this PER.

at 6 percent and Rwanda at 5 percent. By not affecting the tax liability of formal firms but indirectly taxing profits of informal firms, adjustable withholding taxes also reduce the advantage of staying outside the income tax net.

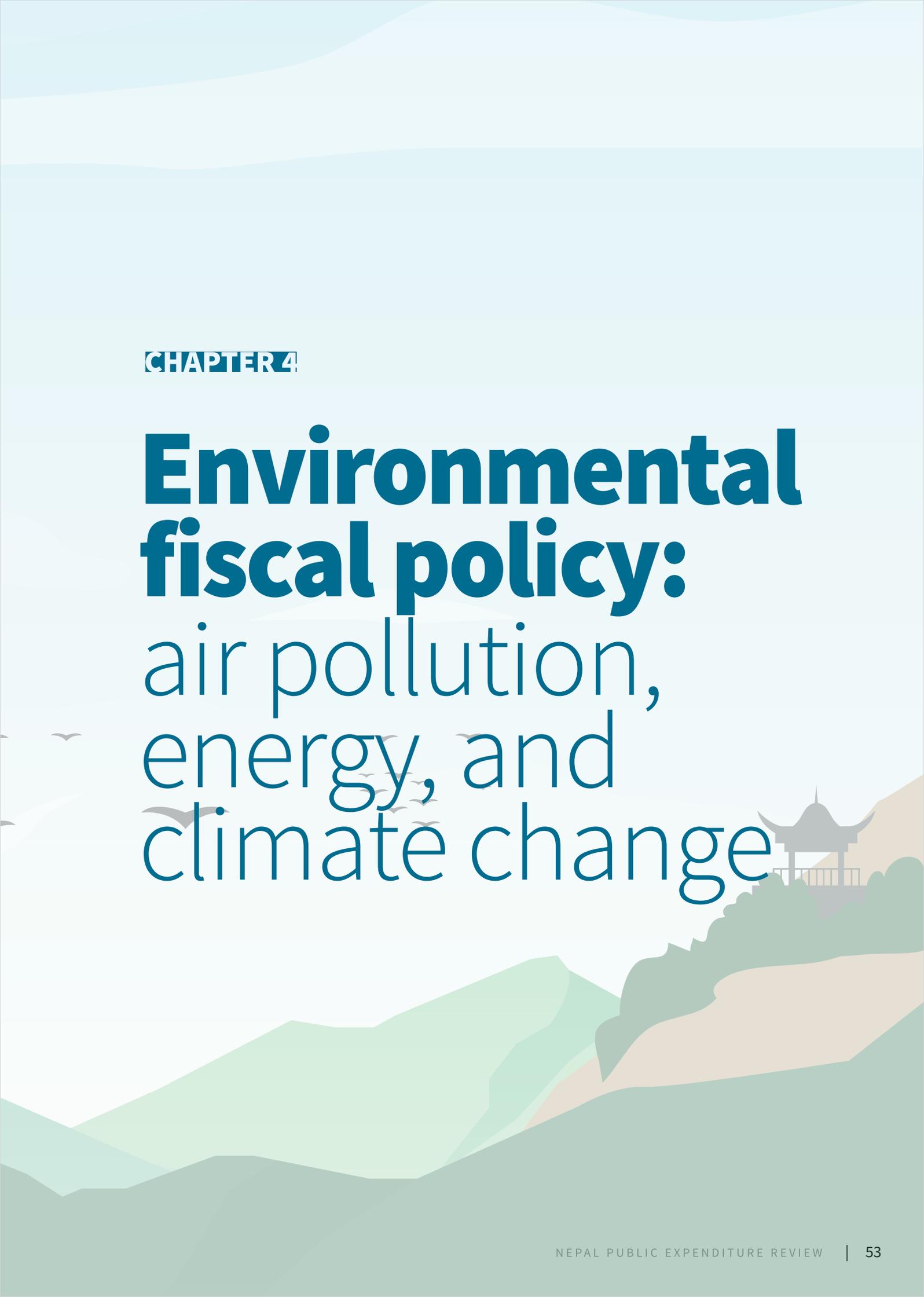
**Strengthening tax withholding:** To encourage formalization, Nepal could expand the scope and coverage of its withholding taxes, for example by imposing a withholding tax on credit card payments to retailers. In general, all transactions where one party to the transaction is a large, formal firm—as is the case with utility payments, for example—could be considered for withholding taxes. Nepal could also consider introducing the ability for government agencies or selected large or medium sized firms to withhold income taxes or VAT on inputs received from non-registered suppliers, allowing

them to act as withholding agents. The withheld tax could be credited against the suppliers' final tax liability should they decide to register.

**Harmonizing VAT registration thresholds for goods and services:** Nepal maintains a dual system of VAT registration where different registration thresholds are applied to firms trading in goods and services. As argued in this chapter, such a system can complicate enforcement. International practice suggests that a uniform—and comparatively high—threshold can reduce enforcement costs, while introducing a presumptive tax scheme which taxes smaller firms that fall outside of the VAT net based on turnover can help widen the tax net.

## CHAPTER 4

# Environmental fiscal policy: air pollution, energy, and climate change

The background features a stylized landscape with rolling hills in shades of green and brown. A traditional pagoda with a dark roof is situated on a hill to the right. Several birds are depicted in flight across the sky.

*Nepal's heavy reliance on biomass and petroleum products generates significant external costs and substantive risks to a green and environmentally sustainable recovery from COVID-19. By calculating the external costs generated by Nepal's main energy sources and contrasting them to the private costs of energy consumption this chapter discusses the role of fiscal policy in ensuring environmentally sustainable growth. It proposes tax and expenditure measures that can help Nepal reduce greenhouse gas emissions and air pollution from biomass, petroleum, and coal combustion to facilitate a green energy transition.*

## 4.1. INTRODUCTION

**Nepal faces a severe environmental health situation, due in large part to the population's exposure to ambient and indoor air pollution.** Estimates from the University of Chicago's Air Quality Life Index<sup>55</sup> suggest that reducing Nepal's ambient particulate matter (PM<sub>2.5</sub>) concentrations<sup>56</sup> to the WHO's guideline level of 10 µg/m<sup>3</sup> would add 4.4 years to average life expectancy in Nepal, more than in any other country. Indoor and outdoor air pollution together constitute the second leading risk factor for disability and death in Nepal, after malnutrition (Institute for Health Metrics and Evaluation 2020). Estimates published in the World Bank Environmental Sector Diagnostic highlight that air pollution is responsible for at least 14,405 deaths each year in Nepal and a total welfare loss equivalent to 6.4 percent of GDP in 2015 (World Bank 2019b).

<sup>55</sup> <https://aqli.epic.uchicago.edu/the-index/>.

<sup>56</sup> PM<sub>2.5</sub> refers to fine inhalable particles with diameters below 2.5 micrometers. Due to their ability to penetrate critical organs, including the lungs, they are a central driver of the adverse health impacts of air pollution.

**Air pollution is tied to Nepal’s energy footprint.** Growing energy consumption has contributed to Nepal’s pollution crisis. Residential energy consumption nearly doubled between 1990 and 2018, from 5,466 to 10,373 kilotonnes of oil-equivalent (ktoe). Similarly, energy consumption in the transport and industry sectors increased nearly tenfold over the same period, albeit from a significantly smaller base (IEA 2020). Most of Nepal’s residential, industrial, and transport energy demand is met from fossil fuels, including biomass, petrol, diesel and coal, the combustion of which emits both greenhouse gases and particulate matter, including PM2.5. These emissions are key drivers of climate change and adverse health effects associated with air pollution. Nepal still predominantly relies on fossil fuels for energy generation even though hydropower presents a growing and cleaner alternative.

**Fiscal policy is a crucial tool for reducing air pollution and greenhouse gas emissions.** Estimates highlight that, under a business-as-usual scenario, economic costs of air pollution are expected to continue growing significantly over the next 15 years, whereas focused policy actions can approximately halve economic costs (World Bank 2019b). Fiscal policy is crucial for facilitating the green energy transition from fossil fuels to electricity

required to achieve this objective. This is because fossil fuel combustion generates an externality, as the social cost arising to society exceeds the private costs accruing to the energy consumer. When applied transparently and efficiently, taxes and subsidies are the main tools available to policy makers to align these private and social costs. Expenditure policy is also crucial for developing cleaner and more sustainable alternatives to fossil fuel combustion as an energy source. The mitigation of climate change is thus the natural point of intersection between fiscal and climate policy.<sup>57</sup>

**This chapter identifies fiscal policy pathways that can help Nepal alleviate climate and environmental health pressures generated by fossil fuel combustion.** The chapter is structured as follows. Section 4.2 summarizes Nepal’s main energy sources and quantifies the external costs arising from their consumption. Section 4.3 compares these cost estimates with existing energy source taxes to assess the extent to which Nepal’s tax system internalizes externalities. Based on this assessment, Section 4.4 proposes a pathway for fiscal policy to support an energy transition from biomass and petroleum products to electricity.

## 4.2 THE EXTERNAL COSTS OF ENERGY CONSUMPTION

**Nepal meets most of its energy needs through the combustion of biomass and petroleum products.** The **former**—which includes fuelwood, dung, biogas, and agricultural waste—accounted for 71 percent of total consumption, and the latter for 19 percent (Table

4.1). The share of consumption from biomass has fallen from an aggregate share of 82 percent in 2015 due to rapid consumption growth from petroleum products. Coal and electricity only account for about 10 percent of consumption.<sup>58</sup>

**Table 4.1.** Final energy consumption by source (2018)

Energy type	Consumption (ktoe)	Percentage of total
Biomass	9,926	70.99
Petroleum products	2,655	18.99
Coal	843	6.03
Electricity	559	4.00
<b>Total</b>	<b>13,983</b>	<b>100</b>

**Source:** World Bank staff calculations, based on IEA 2021. **Note:** ktoe = kilotonnes of oil equivalent

<sup>57</sup> Complementary work that explores how fiscal policy can be used to invest in and provide incentives for climate change adaptation is equally critical.

<sup>58</sup> In 2018, electricity consumption in Nepal amounted to 6.5 terawatt-hours, 75 percent of which was met from hydropower (IEA 2021).

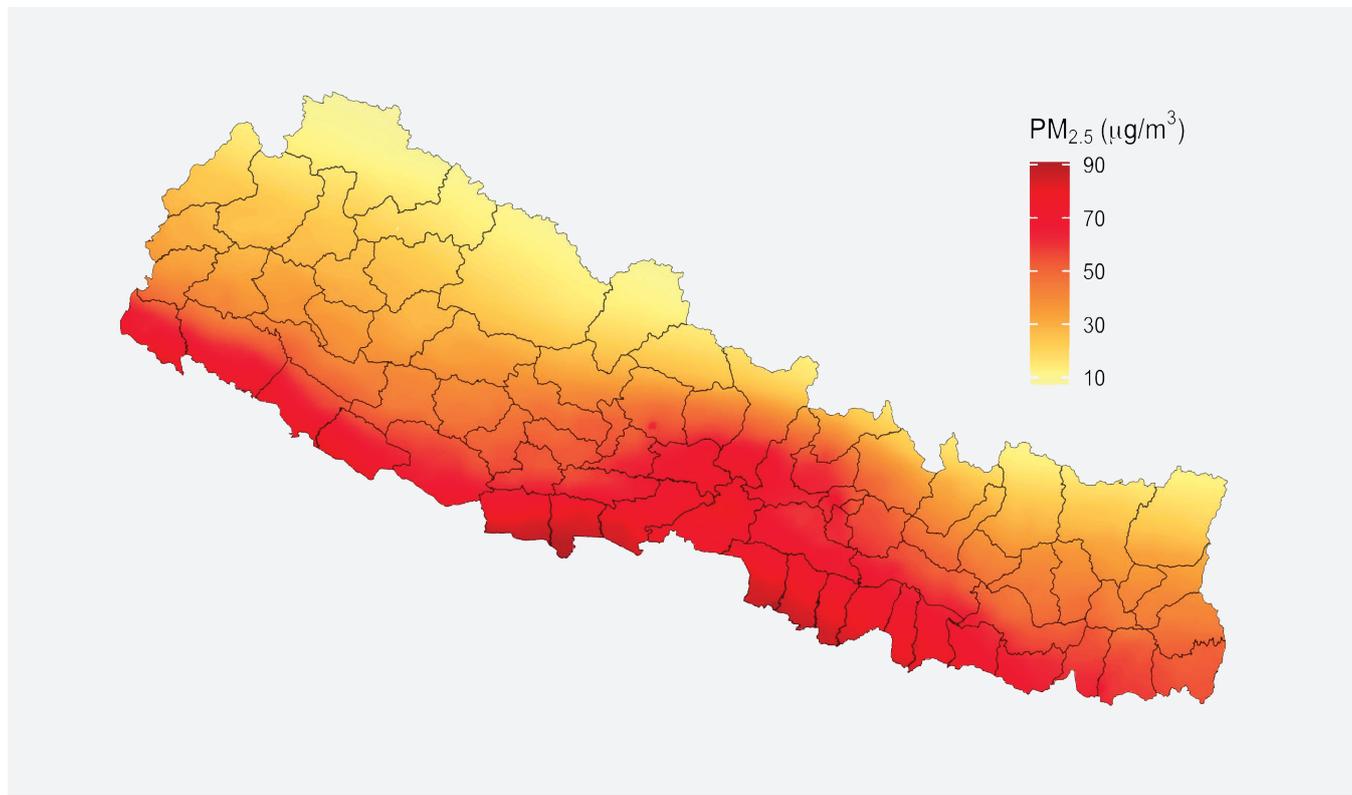
### 4.2.1. Biomass is Nepal's primary energy source, but its combustion imposes significant social costs

**Many Nepalese people rely on wood and agricultural residue for cooking and heating.** A lack of access to reliable electricity means that more than 70 percent of the population remains reliant on traditional biomass cooking and heating technologies, and access to clean cooking devices is below the South Asian average (World Bank 2019b). Wood is the most common household fuel, used by 68 percent of households for cooking (National Planning Commission 2016; Pinto et al. 2019a). Animal waste and dung are the second most common sources of biomass energy for cooking, followed by crop residue, charcoal, processed biomass, and sawdust. While its share of total energy consumption has diminished in recent years relative to petroleum products, biomass consumption levels have grown steadily over the past three decades, at an average rate of about 2.2 percent a year.

**Biomass combustion contributes to indoor air pollution, with adverse health outcomes.** The use of biomass-fueled stoves and a lack of adequate ventilation exposes millions of Nepalese to high levels of particulates

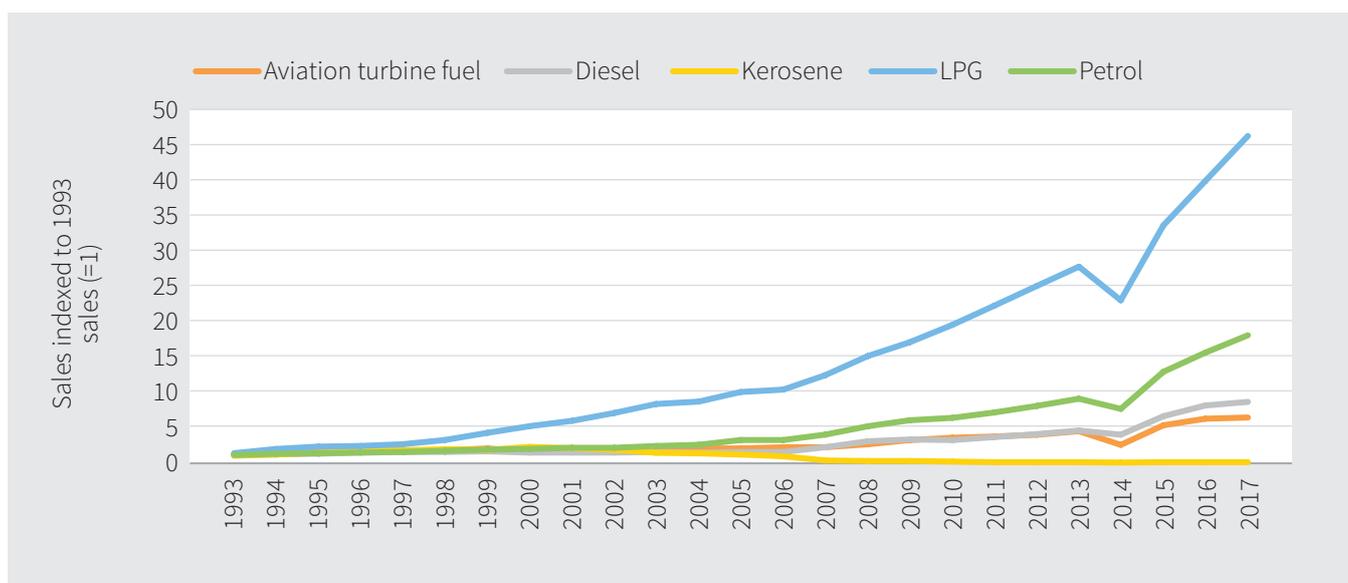
and other hazardous pollutants. Per unit of energy content, fuelwood combustion emits similar levels of PM<sub>2.5</sub> and other common local air pollutants as coal combustion (Jayarathne et al. 2018). In a field study measuring indoor air pollution levels in 824 households in Bhaktapur, Pokhrel et al. (2015) find that PM<sub>2.5</sub> levels in households using biomass stoves exceeded the WHO standard by a factor of 65. These particulate levels were about 6.5 and 8.2 times higher than those in households using LPG and electric stoves, respectively. In 2017, indoor air pollution from solid fuel combustion was the sixth leading risk factor for mortality in Nepal (Institute for Health Metrics and Evaluation 2020). Exposure to high PM<sub>2.5</sub> levels in the household has been found to be a significant risk factor for child acute lower respiratory illness, the second most common cause of death for children under five years old in Nepal (Bates et al. 2018).

**Levels of outdoor air pollution are also high (Figure 4.1).** Traditional cookstove use accounts for 90 percent of emissions across the country and is the main contributor to pollution in the Kathmandu Valley, despite significant transport and industrial activity and higher electric and LPG cookstove penetration (Islam et al. 2020; Sadavarte et al. 2019). Burning agricultural residue also contributes significantly to outdoor air pollution.



**Figure 4.1.** Mean PM<sub>2.5</sub> concentration ( $\mu\text{g}/\text{m}^3$ ) in 2016

*Source:* van Donkelaar et al. 2016



**Figure 4.2.** Sales of petroleum products by Nepal Oil Corporation, (1993–2018) indexed to 1993 value

*Source:* Nepal Oil Corporation 2020.

#### 4.2.2. Petroleum consumption drives external costs in the transport sector

**The sale of refined petroleum products has grown significantly in recent years, due to increased demand from households and the transport sector.** In the past decade, refined petroleum products have been the fastest growing energy source in Nepal. Sales of LPG, diesel, and petrol all grew more than 2.5-fold between 2010 and 2018 (Figure 4.2). LPG is the primary alternative to biomass for residential cooking and is also used for commercial cooking and water heating. Most petrol consumption is from light-duty private vehicles, including cars and two-wheelers, though some irrigation pump sets are also petrol-fueled (Sadavarte et al. 2019). Diesel is used in the transport sector (primarily for public transport and heavy-duty vehicles), in distributed electric generators and in industry. Aviation turbine fuel and kerosene are used for air transport as well as domestic lighting and cooking.

**The petroleum supply chain is highly regulated.** Refined petroleum products are imported from India by the Nepal Oil Corporation (NOC), a state-owned enterprise, which purchases them at the wholesale price set by India’s Ministry of Petroleum (Karki 2019). NOC supplies the imported petroleum products to licensed private pumping stations and LPG dealers, which sell to final consumers at NOC’s published retail prices and make a regulated commission per unit.

**Petroleum product combustion contributes to outdoor air pollution and greenhouse gas emissions.** Combustion of diesel, petrol, kerosene, and aviation turbine fuel is associated with significant carbon dioxide (CO<sub>2</sub>)

emissions, which contribute directly to climate change. Petroleum products also emit PM<sub>2.5</sub>, sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds, and other hazardous air pollutants, which contribute to adverse health outcomes from outdoor air pollution. Although LPG contributes significantly to carbon emissions, it has a much lower emissions profile for local air pollutants. Diesel fuels emit fewer greenhouse gases but higher PM<sub>2.5</sub> than petrol for a given energy output. This makes diesel combustion a central contributor to air pollution in the Kathmandu Valley, where it accounts for about 18 percent of airborne particulate load (Islam et al. 2020). On aggregate, petroleum product consumption likely contributes 25–30 percent of particulate load in the Kathmandu Valley.

**Petroleum fuel consumption also contributes to nonenvironmental externalities.** Congestion and road traffic accidents are directly associated to petroleum consumption and present acute economic and health challenges in Nepal. The Asian Development Bank (ADB) estimates that traffic congestion costs Asian economies between two and five percent of GDP (ADB and World Bank 2012). Road traffic injuries were the fifth leading cause of premature mortality in Nepal in 2017 (Institute for Health Metrics and Evaluation 2020).

#### 4.2.3. Coal consumption is low but associated with adverse externalities

**Coal is consumed almost exclusively by the industrial sector.** Between 2010 and 2018, growth in coal consumption matched that of petroleum products, increasing about 2.5-fold albeit from a lower level (International Energy Agency

2020). Nepal's 1,600 brick kilns—120 of which are in the Kathmandu valley—have been a leading driver of growing coal consumption in recent years, and cement producers are another major consumer (Sadavarte et al. 2019; Eil et al. 2020). Brick kilns are responsible for 15–25 percent of PM<sub>2.5</sub> emissions in the Kathmandu Valley (World Bank 2019b).

**Greenhouse gas emissions and outdoor air pollution from coal impose external costs.** Coal combustion is emissions-intensive and has a significant CO<sub>2</sub> footprint. But, as it makes up only about 6 percent of final energy consumption, it is responsible for only a modest share of greenhouse gas emissions. Because a large share of industry is in the Kathmandu Valley, coal combustion emissions are concentrated in the country's most densely populated areas. As a result, about 5 percent of PM<sub>2.5</sub> concentrations in the Kathmandu Valley were attributable to coal combustion (Islam et al. 2020). Because brick kilns only operate in the dry season, their contribution to outdoor air pollution is seasonal (Islam et al. 2020; Thygeson et al. 2019).

#### 4.2.4. Electric energy, generated by hydropower, is expanding

**Nepal has historically struggled with power outages, but recent investments in transmission lines and generation capacity have helped it overcome electricity shortages.** Its per capita electricity consumption is among the lowest in South Asia. Until the late 2010s, electricity demand growth had been constrained by grid and power plant capacity shortfalls. These shortfalls required increasing electricity imports from India and non-price rationing through blackouts, which cost Nepal about 7 percent of GDP between 2008 and 2016 (Timilsina, Sapkota, and Steinbuks 2018). Since 2017, Nepal's electricity sector has undergone a remarkable transformation. Between 2017 and 2018, the national utility ended regular electricity rationing with the completion of new transmission lines enabling electricity imports from India and new power plant capacity in Nepal. Serving unmet demand helped the utility become profitable in 2018 for the first time in more than a decade (World Bank 2019a).

**Domestic electricity is generated predominantly from hydro sources, making it one of the world's cleanest**

**power systems.** Electricity in Nepal is supplied by the Nepal Electricity Authority (NEA), a state-owned, vertically integrated utility. NEA owns and operates 21 power plants—of which 19 are hydroelectric and two are diesel-fueled—with enough capacity to serve about half of the country's peak load (NEA 2019b). NEA serves the remaining load through power purchase from privately-operated hydroelectric power stations in Nepal and from Indian power plants.

**Nepal is investing in exploiting its substantial hydroelectric power resources, less than 3 percent of which are currently developed.** By mid-2021, about 1.3 gigawatts (GW) of new hydroelectric capacity is expected to begin operation, approximately doubling the country's installed capacity (myRepublica 2020a). At least 4GW of additional capacity is either under construction, proposed, or planned (NEA 2019a; myRepublica 2020a).

**Electricity imports from India may generate external costs through pollution and greenhouse gas emissions.** To meet excess demand, Nepal has relied on imported electricity from India in recent years. As India's electricity generation fleet remains overwhelmingly coal-fueled, it is likely that Nepal's electricity imports are associated with substantial greenhouse gas emissions and local air pollution from Indian power stations. In addition, PM<sub>2.5</sub> emissions from large power stations generally disperse over areas of hundreds of kilometers, so Indian emissions are likely to affect Nepal's air quality.

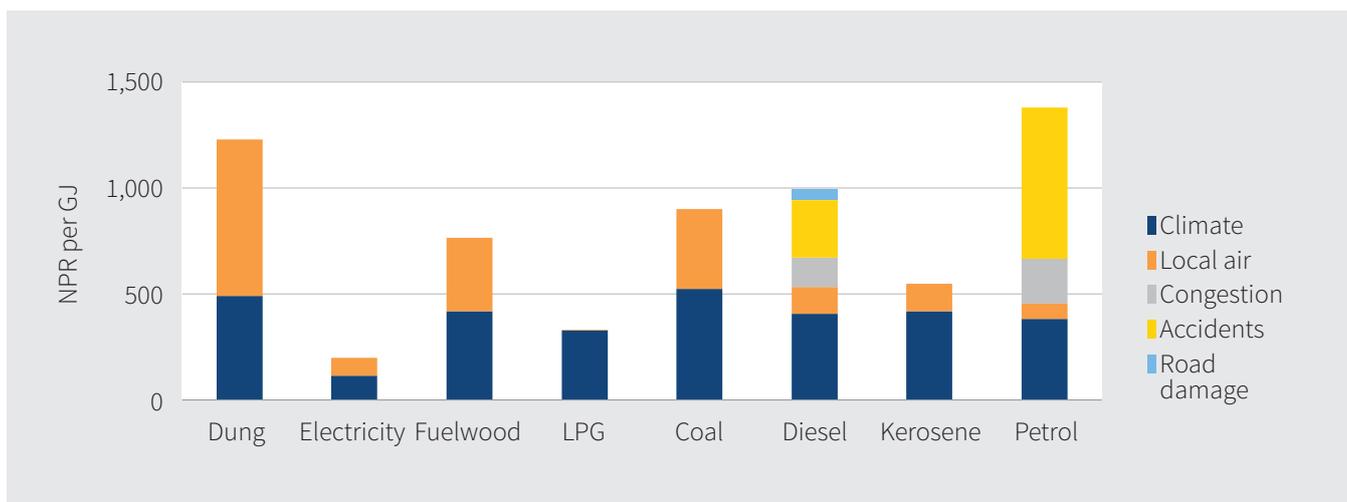
#### 4.2.5 Quantitative estimates of external costs highlight the impact on households and industry.

**Estimates of external costs are based on the IMF's methodology, described in Parry et al. (2014).**<sup>57</sup> The externality estimates correspond to the marginal damages associated with energy consumption and are valued in monetary terms per unit of weight or volume (for example, in liters for diesel) or per unit of energy content—that is, in gigajoules (GJ).<sup>58</sup> The approach covers three major categories of external costs: climate change, outdoor air pollution, and transport-related damage.<sup>59</sup>

<sup>57</sup> Coal, diesel, kerosene, and petrol estimates are reported directly from the most recent update to the IMF's Global Energy Subsidies Database (IMF 2019). External costs for dung, firewood, and LPG in Nepal are estimated using Parry et al. (2014)'s methodology, as these fuels are not covered in the IMF database.

<sup>58</sup> Both sets of estimates are reported here. Because fuels vary in their energy content per unit of weight or volume (energy density), estimates valued per unit of energy content enable comparison across fuels; estimates expressed in per weight or volume terms can be used to compare external fuel taxation costs.

<sup>59</sup> While these categories are far from exhaustive—for example, they exclude damage from indoor air pollution—they have an established and widely accepted estimation method, whereas estimates for other categories would be ad hoc.



**Figure 4.3.** Estimates of external costs per unit of energy consumed

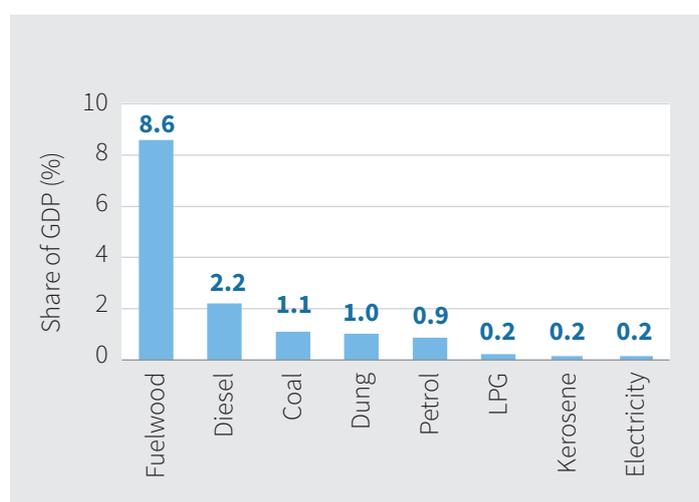
*Source:* World Bank staff calculations, based on data from IMF 2019 using Parry et. al. (2014) methodology.

The results from the quantification exercise highlight that climate change and air pollution are key external costs across energy sources (Figure 4.3).

Climate damages arise across energy sources and range from NPR 116 per GJ for electricity to NPR 526 per GJ for coal. Damages from local air pollution are also substantial across energy sources, especially biomass and coal. Diesel is a higher contributor to local air pollution than petrol. Considering these external costs, the figure illustrates the benefits of transitioning from traditional fuels, as electricity damages per unit of energy are about 74 and 84 percent lower than those associated with fuelwood and dung, respectively.<sup>60</sup> LPG is associated with about half the external costs of fuelwood and about a quarter of those of dung.

**Aggregate external costs from biomass combustion amounted to almost 10 percent of GDP in 2017 (Figure 4.4).**

Externalities from transport fuels are also significant, amounting to over 3 percent of GDP in 2017. Non-pollution costs from congestion, accidents and road damage make up more than half of their external costs.<sup>61</sup> In contrast, externalities from the electricity sector are negligible due to its dependence on clean hydropower.



**Figure 4.4.** Aggregate external costs by energy source (FY17)

*Source:* World Bank staff calculations, based on data from IMF 2019, IEA 2021, and NOC 2020.

*Note:* These figures are calculated by combining the previously discussed external cost per unit estimates with aggregate consumption figures on different fuel types. Coal and electricity consumption data are from the IEA database. Petroleum product consumption is proxied for using NOC sales data for diesel, petrol, LPG, and kerosene. Data on aggregate energy from biomass consumption are from the IEA, and the share of fuelwood and dung is from Energy Sector Management Assistance Program (ESMAP) survey data.

<sup>60</sup> Climate and local air pollution damages associated with electricity consumption for Nepal from electricity imports are calculated as the product of the proportion of Nepal's electricity load served by Indian imports (22 percent in 2020) and the damages associated with burning coal in Nepal. Estimated damages are expected to be upwardly biased because some of Nepal's imports from India may be served by less polluting sources such as hydro, natural gas, or renewable sources, and emissions of local air pollutants from coal-fueled powerplants in India probably contribute less to particulate pollution in Nepal than coal-fueled plants in Nepal would. As Nepal's hydro generation fleet expands, these damages are likely to fall substantially as the proportion of the country's load served by imports is reduced.

<sup>61</sup> Transport-related damages are smaller for diesel than for petrol because diesel serves the industrial and electricity sectors in addition to transportation, while petrol only serves the transportation sector. Costs related to road damage are attributed mainly to heavy-duty vehicles rather than cars and two-wheelers and therefore to diesel rather than petrol consumption.

## 4.3. TO WHAT EXTENT ARE EXTERNAL COSTS INTERNALIZED?

**Fossil fuel combustion in Nepal generates significant externalities that should be internalized through the tax system.** The previous section emphasized the substantial social costs that arise from energy consumption. Such externalities are typically not reflected in the price of environmentally harmful energy sources, leading people to over-consume them. Public finance has a critical role to play in alleviating this, by using taxes (and subsidies) to equate the private costs of energy consumption to the social costs.

**Biomass is primarily procured through informal sources and is thus neither subsidized nor taxed.** Firewood for household cooking and heating is primarily gathered rather than purchased, so the majority is neither directly priced nor taxed (Baland et al. 2018; Pinto et al. 2019b). Survey evidence suggests that only 16.4 percent of households purchase wood regularly (World Bank 2019a). Animal waste fuels are also served through self-production or informal trade. As a result, biomass consumption remains outside the tax net.

**Coal is taxed through import duties and VAT.** Although Nepal has a modest endowment of coal deposits and a handful of small mining operations, the country imports more than 95 percent of its coal, primarily from India (ADB 2017). In 2017, Nepal imported 1.1 million tonnes of coal, worth approximately \$145 million. Coal imports

are decentralized, conducted by private importers, and subject to duties, levied at 5 percent. Coal is also taxed through the VAT system at the standard rate of 13 percent.

**In contrast to other countries, petroleum products are not subsidized and subject to VAT as well as excise and customs duties.** Since 2014, the NOC has determined retail petroleum product prices, using an automated pricing mechanism that links retail to international benchmark prices without adding a subsidy.<sup>62</sup> Retail prices for petroleum products reflect customs duties at a rate of NPR 2.3 per liter and the standard 13 percent VAT rate (Table 4.2). Petroleum products are also subject to specific excise taxes to internalize the externalities generated by their combustion. Key taxes include an NPR 10 per liter infrastructure tax, an NPR 0.5 per liter pollution tax<sup>63</sup>, and an NPR 3–5 per liter road maintenance tax. Nepal also maintains a price stabilization fund, funded through a small per-unit fee on petroleum products, to help insulate consumers from price volatility.<sup>64</sup> The NOC collects most petroleum tax on the government's behalf, remitting it to the revenue administration. The fiscal proceeds of taxing petroleum products are substantial: during FY19, NOC transferred NPR 63.85 billion in taxes to the government, which is about 1.8 percent of GDP and 7.4 percent of Nepal's total tax revenue (Prasain 2020; IMF 2020). All considered, wholesale fuel prices account for less than

**Table 4.2.** Taxes and fees on refined petroleum products (NPR per unit sold)

	NPR per liter			NPR per 14.2 kg cylinder	
	Diesel	Petrol	Aviation turbine fuel	Kerosene	LPG
Customs tax	2.3	15.23	2.13	2.3	44.92
Infrastructure tax	10	10	0	10	0
Petroleum infrastructure tax	0.5	0.5	0.5	0.5	0
Pollution tax	0.5	0.5	0.5	0.5	0
Price stabilization fund	0.38	0.5	0.5	0.38	7
Road maintenance tax	3	5	0	3	0
VAT	13%	13%	13%	13%	13%

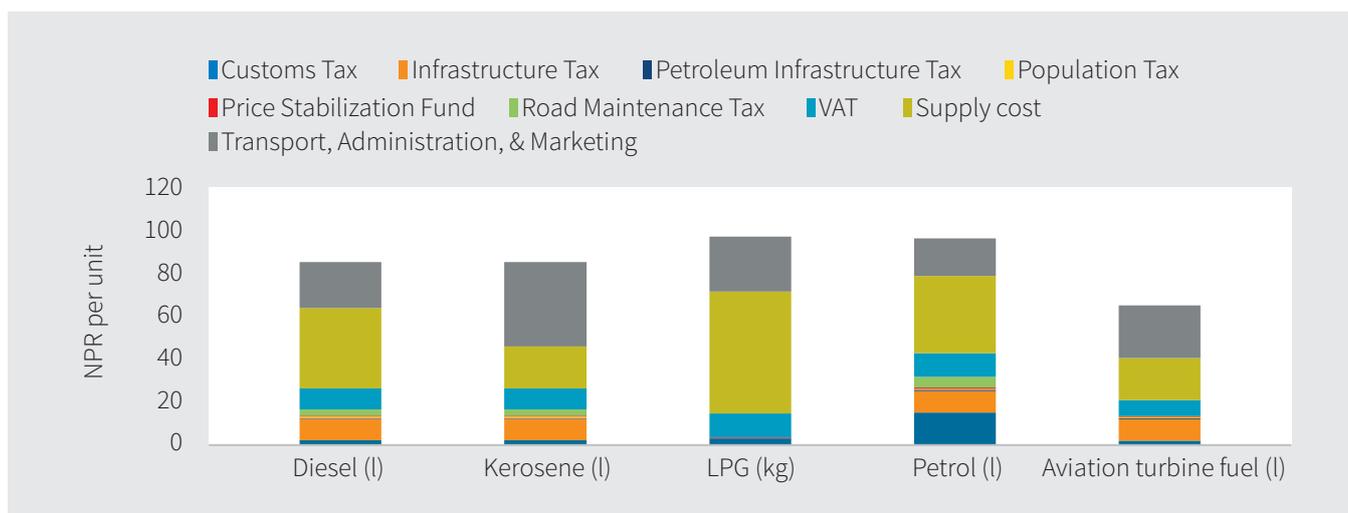
**Source:** World Bank staff calculations.

**Notes:** The FY21 Finance Bill removed the infrastructure tax on aviation turbine fuel. Previously, it was NPR 10 per liter.

<sup>62</sup> Before 2014, prices were set administratively by the government, and price increases were sometimes met with significant public protest (Kojima 2013).

<sup>63</sup> This was raised to NPR 1.5 in FY21.

<sup>64</sup> As of May 2020, the fee stood at NPR 0.38 per liter for diesel and kerosene, NPR 0.5 per liter for petrol and aviation turbine fuel, and NPR 7 per 14.2 kg cylinder of LPG.



**Figure 4.5.** Estimated price buildup of petroleum products supplied by NOC

**Source:** World Bank staff calculations, based on data from NOC (product prices); various news reports (taxes); Petroleum Planning & Analysis Cell (supply costs).

Note: Comprehensive data on NOC's costs of transporting its products from India, supplying them to dealers, and administration are not publicly available. These costs are estimated as the difference between NOC's published sale prices and the supply costs and taxes.

half of total retail prices for all petroleum products apart from LPG (Figure 4.5).

**Taxes levied on vehicles also help internalize the costs of transport emissions.** All private motor vehicles are currently imported, and internal combustion engine vehicles are subject to up to 80 percent customs duties. Purchasing a new vehicle is also subject to a one-off road and maintenance fee, which is 5 percent of the purchase price for cars, trucks, and buses, and NPR 7,000–9,000 for two-wheelers. Vehicle owners then pay an annual vehicle tax of NPR 18,000–48,000 for cars and NPR 2,500–6,000 for two-wheelers, depending on engine power. Electric vehicles face about half the tax burden of internal combustion engine vehicles (Shakya 2020).

**Although Nepal's electricity sector does not receive public subsidies and electricity sales are not taxed, there are significant cross-subsidies within the electricity tariff schedule.** The retail electricity pricing regime uses a complex, two-part tariff with cross-subsidies across customer groups. Residential customers pay the lowest average prices for electricity, with a substantial implicit subsidy. The cost of these subsidies mainly falls on commercial customers, whose prices per unit were on average about 54 percent higher than residential customers in FY19 (NEA 2019a). Residential customers also face an increasing block tariff, with marginal energy charges rising steeply over levels of monthly consumption, generating

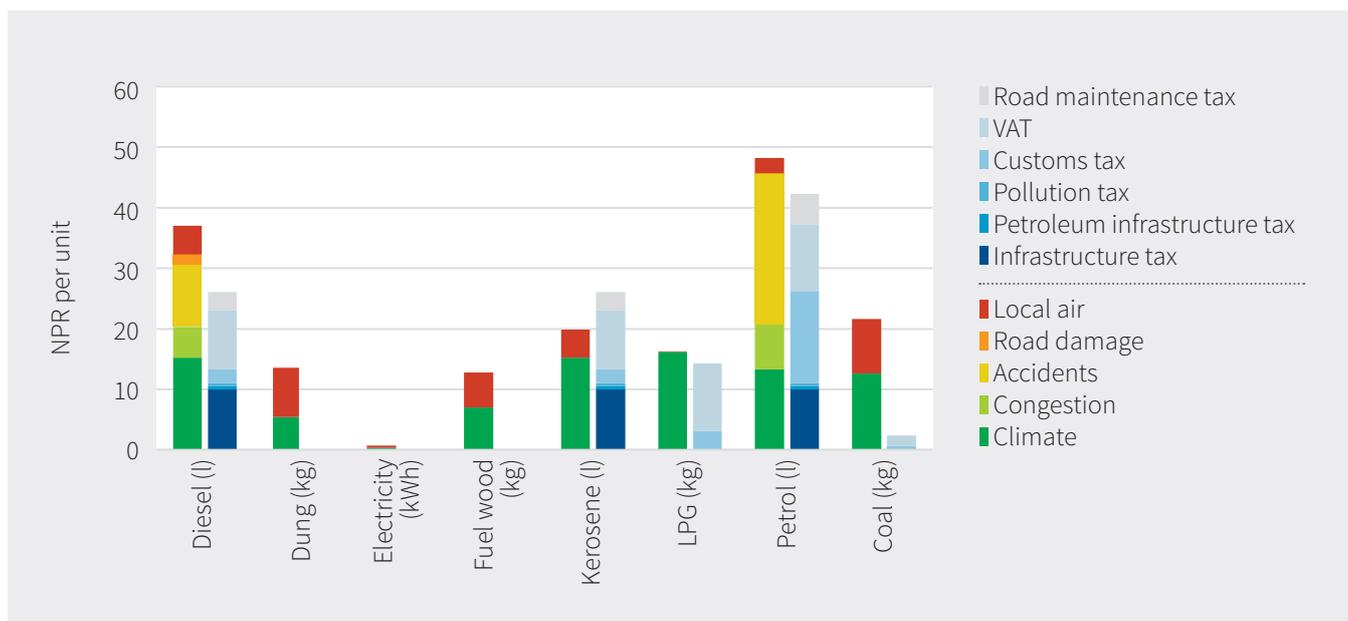
cross-subsidies within the residential category.<sup>67</sup> The tariff schedule achieves cost recovery for NEA and there is no explicit or implicit subsidy to the sector (NEA 2019a). Electricity sales are exempt from VAT.

**Quantitatively comparing external costs to taxation highlights five stylized facts (Figure 4.6):**

1. Because they are not taxed directly, dung and fuelwood are associated with the largest untaxed externalities, resulting in NPR 13.5–12.8 per kilogram in climate and local air pollution damages, respectively.
2. By contrast, taxes on all refined petroleum products (except diesel) are comparable to the external costs included in the analysis.<sup>68</sup> For kerosene, taxes exceed these external costs by about 30 percent.
3. Taxes only cover about 70 percent of externalities from diesel combustion. Taxes on petrol also exceed taxes on diesel significantly, conceivably inducing a substitution from petrol to diesel.
4. While the electricity sector remains untaxed, its low externalities due to its dependence on hydropower make it a natural alternative to biomass as an energy source.
5. Although coal accounts for a comparatively small share of Nepal's aggregate emissions, its combustion imposes significant climate and local air externalities that are not internalized through the tax system.

<sup>67</sup> In June 2020, amid a drop in electricity demand due to the COVID-19 pandemic, NERC reduced retail electricity tariffs for most domestic customers by up to 10 percent. Under these reforms, which may be temporary, the bottom step of the increasing block tariff was reduced to NPR 0 per kilowatt hour.

<sup>68</sup> As the one-off and annual taxes on vehicles described previously are not included in the figures, total taxes probably exceed externalities for private vehicle transport on a per-vehicle mile traveled basis in Nepal.



**Figure 4.6.** Externalities and taxes by energy source

**Source:** World Bank staff calculations, based on data from NOC (product prices); news reports (taxes); Petroleum Planning & Analysis Cell (supply costs).

**Note:** Taxes (orange/yellow) and Externalities (blue/grey).

## 4.4. POLICY RECOMMENDATIONS: FACILITATING A CLEAN ENERGY TRANSITION THROUGH FISCAL POLICY

**Nepal has a unique opportunity to transition energy from fossil fuels to electricity, which is critical for green growth after COVID-19.** The country’s enormous hydroelectric power resources provide a pathway toward expanding energy access with clean, low-carbon electricity. This is possible because, unlike several of its neighbors in South Asia, Nepal’s energy pricing system has largely managed to avoid subsidy and infrastructure quality traps in which subsidized energy prices saddle state utilities with debt and hamper expansion of access and maintenance of high-quality service.

**To facilitate this transition, fiscal policy can target two parameters that influence uptake and use of cleaner energy sources.** A clean energy transition for Nepal hinges on consumers’ incentives and ability to use electricity instead of biomass or petroleum products to meet their energy needs. Fiscal policy is critical for targeting both parameters. Incentives are created by the tax system, which

can adjust relative consumer prices to reflect the private and the social costs of energy consumption. However, getting the incentives right is not enough. Nepal can also influence consumers’ ability to switch energy sources, using expenditure, subsidy, and tax policy to provide accessible alternatives, and complementing this with transition support measures, such as targeted training, behavioral nudges, and communication campaigns.

**This section discusses possible policies to target these parameters at household level and in the transport and brick kiln sectors.** The priority is reducing indoor and outdoor air pollution by transitioning away from biomass. In the medium term, the country can reduce outdoor air pollution and greenhouse gas emissions by transitioning from petroleum to electricity in the transport sector. The longer-term policy recommendations focus on upgrading Nepal’s brick kilns to reduce coal consumption.

### 4.4.1. Immediate priorities: facilitating an energy transition in the household sector

**Reducing biomass combustion in households is a crucial short-term priority but cannot be achieved through the tax system.** One goal of Nepal's 2016 Sustainable Development Roadmap is reducing the share of households that rely on firewood for cooking from 75 to 30 percent by 2030 (National Planning Commission 2016). This could be accomplished by inducing consumers to switch to electric induction stoves for heating and cooking. However, as traditional fuels are neither explicitly priced nor taxed, externality-correcting taxes designed around the external costs estimated in the previous section are unlikely to be feasible policy measures. Instead, the policy recommendations in this section focus on encouraging uptake of electric or LPG cookstoves through a four-pronged strategy:<sup>69</sup>

**Subsidizing clean cookstoves:** Efforts to increase households' use of electric energy have focused on reducing electricity tariffs and waiving customs duty on imported induction stoves (myRepublica 2020b). Despite these efforts at incentivizing uptake, the stoves typically cost NPR 3,000–7,000. That is twice as much as a year's worth of electricity to power them. Recent evidence suggests that direct stove subsidies would substantially increase adoption: a randomized field experiment in northern India found that 20–33 percent rebates on electric and improved biomass stoves doubled and tripled sales, respectively (Pattanayak et al. 2019). Also, direct subsidies to purchase electric or LPG stoves (rather than blanket electricity subsidies) are better at targeting consumers who use traditional stoves. Such measures can be complemented with subsidies for distributed solar solutions such as passive water heating devices or local micro solar grids; or through pre-financing programs that help consumers spread out the cost of cookstoves over a longer period.

**Encouraging the uptake of electric or LPG stoves:** As well as direct subsidies, nonmonetary interventions to inform customers about the benefits of improved stoves, support the market, and help customers overcome credit constraints can generate significant value for money. A substantial body of evidence highlights that willingness to pay for improved cookstoves is low among poor households using biomass fuels because most consumers are not well informed about the benefits of clean cooking or the costs associated with it. Complementing subsidies

with a package of interventions that demonstrate stoves, provide payment plans, and deliver stoves directly to households can help overcome this (Pattanayak et al. 2019; Beltramo et al. 2019).

**Carefully adjusting electricity tariffs:** The estimated external costs suggest that each GJ of energy use that transitions from fuelwood to electricity in Nepal saves about NPR 566 in external costs. This does not, however, imply that Nepal should give all consumers an electricity subsidy of NPR 566 per GJ, as this would increase electricity consumption in households that already use electricity for cooking and heating. The cross-subsidy that already exists within Nepal's electricity tariff schedule can be used to avoid this adverse effect, as it subsidizes lower-income households, who are more likely to rely on traditional stoves, at the expense of existing electricity users. To this end, Nepal's increasing block tariff is a key policy instrument, allowing it to maintain generous subsidies on the bottom steps of the tariff schedule while restoring the steeper increase in tariffs beginning at 50 kilowatt hours per month.

**Investing in infrastructure:** Future investment in the power infrastructure can focus on two complementary pathways. First, although the constraints on electrification imposed by insufficient generation capacity have been largely relieved, transmission and distribution grid capacity must keep pace with demand to ensure reliable service. In 2020, NEA officials raised concerns about the distribution grid's ability to support peak demand under a large-scale transition to electric stoves (Ahikari 2020). Given Nepal's history of electricity rationing and issues with voltage stability, maintaining levels of investment in improving electricity service quality is an important enabling factor for households transitioning to electricity for home energy use.<sup>70</sup> Similarly, supporting investment in the transmission grid is critical for maintaining reliable electric supply, and would allow Nepal to import electricity from India to serve its peak hours and facilitate power exports when generation capacity exceeds demand. For households that are unlikely to be reached by the national grid, the development of mini grids will be critical. Second, Nepal could consider investing in further greening its power generation buildout by focusing on developing commercial solar and wind plants. Not only do such plants produce renewable energy without generating emissions, they can also do it more cost-effectively and with lower environmental and social risks than large-scale hydropower projects.

<sup>69</sup> Electricity is a more sustainable alternative than LPG as it is currently associated with about a 40 percent reduction in external costs relative to LPG and is increasingly domestically produced.

<sup>70</sup> Studies of ICS adoption have found evidence of households that adopt ICSs reverting to traditional biomass stoves in response to blackouts and voltage fluctuations (Hanna, Duflo, and Greenstone 2016).

## 4.4.2. Medium-term measures: using electricity to fuel the transport sector

**In the medium term, Nepal can reduce outdoor air pollution and greenhouse gas emissions from the transport sector.** Nepal's 2016 Sustainable Development Roadmap set a goal of electrifying 50 percent of public transport by 2030; in 2018, this was followed by an interim goal to reach 20 percent electrification by 2020 (National Planning Commission 2016). Once taxes on vehicle purchases and ownership are included, taxes likely already exceed the social cost of private vehicle transport for internal combustion engine automobiles. As such, policy measures can focus on providing access to greener alternatives by facilitating take-up of electric vehicles, pedestrianization, and bicyclization. These are the key policy measures:

**Incentivizing the uptake of electric vehicles:** As part of the FY21 Finance Bill, some tax exemptions on electric vehicles were removed. Around the world, demand for electric vehicles has been highly sensitive to taxes, so such policies are expected to slow their adoption (Patella, Perchel and Jaques 2018). Nepal recently restored these exemptions, and this is likely to contribute to growing penetration of electric vehicles, reducing reliance on imported fossil fuels and associated air pollution. Maintaining these exemptions over the medium-term and providing further fiscal incentives for electric vehicle adoption will be important. Such measures can be complemented by non-financial incentives, such as parking privileges for electric vehicle owners, which are also expected to encourage uptake in a cost-effective manner.

**Investing in charging infrastructure:** Nepal's government has also identified the lack of charging infrastructure as a key barrier to electric vehicle adoption (Global Green Growth Institute 2018). Policy can help overcome this barrier by supporting standardization, planning, and investment. This policy support is critical to enabling Nepal's electric vehicle market to develop network effects: more and better coordinated charging infrastructure reduces the cost of transitioning from internal combustion vehicles to electric for consumers, while more electric vehicles on the road supports a growing charging network. The government and NEA have already taken key actions, announcing plans for 200 charging stations and special electricity rates for vehicle charging (Himalayan News Service 2019a, 2020).<sup>71</sup>

**Promoting pedestrianization and bicyclization:** The analysis in this chapter has highlighted the substantial

external costs imposed by congestion linked to traffic. Reducing congestion costs requires investments that facilitate transport for pedestrians and bicycle users. These have gained increasing prominence during the COVID-19 pandemic, when social distancing measures discouraged the use of public transport. Cost-effective measures could involve redesignating roads to establish secure bike lanes and public encouragement campaigns such as car-free days. Longer-term investments can involve building designated cycle highways and segregated walk and bike ways.

## 4.4.3. Longer-term measures: cleaning the brick kiln sector<sup>72</sup>

**Reducing emissions and air pollution from coal combustion in the brick kiln sector is a longer-term priority.** Nepal's brick kilns use almost exclusively imported coal, contributing to air pollution and greenhouse gas emissions. The country has taken initial steps to reduce emissions from the sector, including a 2009 nationwide ban on the two most polluting technologies—clamp kilns and movable chimney bull's trench kilns—and tightening emission standards in 2018. To build on this progress, the following two steps are crucial.

**Strengthening monitoring and enforcement of standards:** Insufficient monitoring has created a compliance gap around emission standards in the sector, and there is anecdotal evidence that clamp kilns and movable chimney bull's trench kilns continue to operate. Strengthening the system could start with a comprehensive registration drive that generates a database of all brick kilns operating in the country. This could be coupled with a requirement for kilns to maintain certification at regular intervals, based on a pollution and emission assessment. Establishing such a system would help enforce standards and act as a foundation for taxation targeted at the sector.

**Aligning coal taxation with its external effects:** As the external costs generated by coal combustion are not internalized through the tax system, there are opportunities to use economic incentives to clean the brick kiln sector. With almost all coal imported, increasing custom duties on coal presents an actionable and effective policy option. Alternatively, Nepal could consider introducing a tax on domestic coal sales or emission certificates for brick kilns. Such measures could generate significant incentives to enhance brick kiln technology, thus reducing greenhouse gas emissions and air pollution.

<sup>71</sup> The charging infrastructure relies on investments in the electricity distribution grid, see section 4.4.1.

<sup>72</sup> Recommendations in this section are aligned with and draw on World Bank (2019b).

**CHAPTER 5**

# **Budget execution and public investment management**

*Nepal has notoriously low budget execution rates which prevent a closure of infrastructure gaps. This chapter offers an overview of Nepal's budget performance and reviews Nepal's budget planning and implementation systems to identify options to enhance budget execution. It proposes a policy roadmap aimed at aligning budgets and periodic plans with spending outcomes to facilitate enhanced infrastructure spending for inclusive growth.*

## 5.1. INTRODUCTION

**Significant infrastructure and service delivery gaps are an impediment to Nepal's development.** Estimates from the World Bank's 2019 Infrastructure Sector Assessment highlight that Nepal needs to invest 10–15 percent of GDP annually over the decade to close infrastructure gaps (World Bank 2019b). Much of this investment will need to be planned and executed by the public sector, yet public investment in infrastructure stood at only 6.3 percent of GDP in FY19.

**Nepal's ability to ramp up spending is constrained by ineffective budget planning and execution.** In Nepal's economy, it takes five additional units of public investment to achieve one additional unit of output; compared to 2.2 in Cambodia and 1.5 in Vietnam (World Bank 2017b).<sup>73</sup> A crucial factor underlying the low spending efficiency is a lack of budget credibility, as witnessed by exceptionally low budget execution rates, a high variability of spending and substantial bunching of expenditure in the last quarter of each fiscal year.<sup>74</sup>

<sup>73</sup> This measure captures the incremental capital output ratio, which explains the relationship between the level of investment in the economy and the related increase in the GDP.

<sup>74</sup> For example, IMF (2015) argues that the average country loses about 30 percent of the returns on its investment to inefficiencies in its PIM processes and that two-thirds of spending efficiency gaps across countries can be closed by improving PIM (IMF 2015).

**The transition to federalism is expected to reinforce budget planning and implementation challenges.**

While there have been achievements in strengthening PFM systems for provincial and local governments, capacity is still a constraint to the effective management of increasing resources and responsibilities, particularly for capital projects. This is reflected in persistently low budget execution rates, with PLGs only executing 50.6 and 69.6 of budgeted spending in FY19, respectively.

**This chapter identifies the constraints on budget planning and implementation and recommends core policy actions to strengthen them.**

The rest of this chapter is structured into three sections. Section 5.2 establishes key stylized facts about Nepal's budget planning and execution performance at federal, provincial, and local levels. Section 5.3 presents the results of an institutional constraints assessment that looks at how budgets are planned and implemented. Section 5.4 offers policy recommendations.

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## 5.2 NEPAL'S BUDGET PERFORMANCE

### 5.2.1. Nepal has comprehensive PFM legislation

**Nepal's PFM legislation is built around five pillars.** The 2015 constitution forms the basis of the PFM framework by outlining the broad responsibilities of different ministries and agencies in the budget formulation and implementation process. The Intergovernmental Fiscal Arrangement Act 2017 and the Financial Procedures and Fiscal Responsibility Act 2019 prescribe, among others, the processes for formulating periodic plans, expenditure frameworks and annual budgets for all government levels. Subnational fiscal management processes are guided by the Local Government Operation Act, 2017, which outlines, among others, processes and procedures for local-level planning and budgeting. Audits are regulated through the Audit Act 2018. Finally, the Public Procurement Act, 2007—including a recently proposed second amendment—is central to guiding budget implementation and contains provisions on compliance. With multiple new acts enacted in recent years, Nepal's legal framework has matured significantly.

**Budget formulation is a joint responsibility of the National Planning Commission and the Ministry of Finance.** Nepal's legislation centers the budget process around the MTEF which is prepared annually by the National Planning Commission for rolling three-year periods and translates macro-fiscal objectives and constraints into broad budget aggregates and detailed

expenditure plans.<sup>75</sup> Based on the MTEF, line ministries and agencies receive resource ceilings, which their respective planning departments use to develop program and project proposals for the next three years. These proposals are then submitted to the National Planning Commission if they concern capital spending, and the Ministry of Finance if they have recurrent spending implications. Both bodies carry out a selection and deliberation process on the proposals, and the National Planning Commission then aggregates accepted proposals into an overall budget. After Cabinet endorsement, the Ministry of Finance submits the budget to Parliament for approval. Once approved, the Ministry of Finance allocates funding to line ministries, which are tasked with program and project implementation.

Following Nepal's transition to federalism, PLGs are now required to prepare and pass budgets and programs through their respective assemblies each fiscal year (Box 5.1). To support subnational planning, guidelines have been issued to PLGs on detailed procedures, institutional arrangements, and timelines.<sup>76</sup> However, provincial and local-level budget preparation remain in transition. For instance, while the Intergovernmental Fiscal Arrangement Act 2017 mandates PLGs to prepare an MTEF, PLGs were given a three-year transition period from the enactment of the Act in 2017 during which they only had to prepare MTEFs on a need basis. At the end of FY20, all provinces had prepared an MTEF, but no local governments had done so.

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<sup>75</sup> The Intergovernmental Fiscal Arrangements Act 2017 mandates the publication of the MTEF for all levels of government on an annual basis.

<sup>76</sup> These include the NPC's Plan Formulation Guidelines for Provincial and Local Government 2018 and MoFAGA's Local Level Annual Plan and Budget Formulation Guideline.

**Box 5.1****Planning and budgeting at provincial and local levels****All PLGs formulate and pass their annual budget before the start of the fiscal year.**

Aggregate budget ceilings at provincial and local levels use two inputs to estimate the size of the available resource envelope. First, NNRFC's annual recommendations and guidelines outline expected fund flows through grants and revenue sharing. Second, the local level Revenue Advisory Committees, provincial planning commissions, and Ministry of Economic Affairs and Planning at the provincial level estimate the own-source revenue that they plan to collect in the forthcoming fiscal year, based on their revenue rights and any scope for increasing revenue collection. Based on these inputs, resource committees fix the aggregate budget ceiling and determine sectoral allocations and guidelines for budget and program prioritization. They then submit these to the local executive body or provincial planning commission for approval.

**Local-level budgets are further devolved to the ward level.** Following the approval of budget ceilings, guidelines and prioritizations, the local executive body sends them to the ward level, which uses them as inputs to prepare proposed programs and projects, which form the basis of ward-level budgets. These proposals are then returned to the local-level budget and program formulation committee to formulate the annual budget and program along with the MTEFs. These are then approved by the local executive committee by the end of June. Local-level capital budget planning is part of the general budget process and involves two levels: municipal level (top-down) and ward/community level (bottom-up). At provincial level, budget proposals and the MTEF are prepared by the Ministry of Economic Affairs and Planning, which sends them to the Council of Ministers for endorsement and submission to the Provincial Legislature for deliberation and approval. The annual budget must be presented in the Provincial Legislature by June 15 every year.

**5.2.2. Nepal's budget credibility remains low**

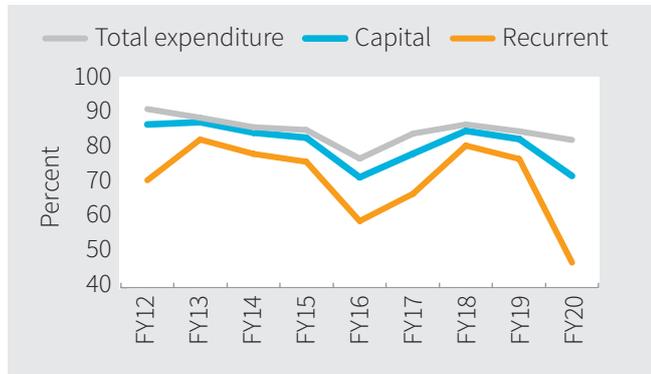
**Nepal regularly underspends its budget.** Nepal's federal budget execution rates have declined over time and have consistently remained under 85 percent in recent years (Figure 5.1a). Underspensing is driven by the federal capital budget, of which only 73.9 percent was spent in FY19, compared with 85.4 percent for the recurrent budget. Budget execution rates by the MoF and the Prime Minister's Office stood at only 50 and 60 percent in FY19, respectively, and drive aggregate underspending due to their large overall budget shares (Figure 5.1e). On the functional side, underspending is driven by economic affairs budgets and general public services (Figure 5.1f). At

the subnational level, provincial governments only spent 50.6 percent of their budgets in FY19 (Figure 5.1d). Budget execution was lowest in Karnali Province and highest in Lumbini Province. Local governments spent 79 percent of their budgets overall, but budget execution varies according to financing source (Figure 5.1c).

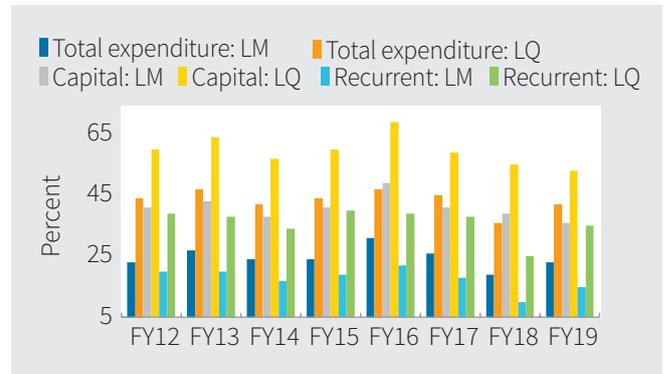
**Most public spending is bunched into the last quarter of the fiscal year.** Between FY12 and FY19, 43.1 percent of total spending took place in the last quarter of the fiscal year, and 24.6 percent in the last month of the fiscal year (Figure 5.1b). Like budget execution rates, this is particularly pronounced for capital spending, with 53 percent spent in the last quarter and 36 percent in the last month of FY19.

**The COVID-19 crisis has further exacerbated budget implementation issues.** In FY20, the share of federal budget spent reached a four-year low of 71.7 percent, and capital budget execution rates dropped to an eight-year

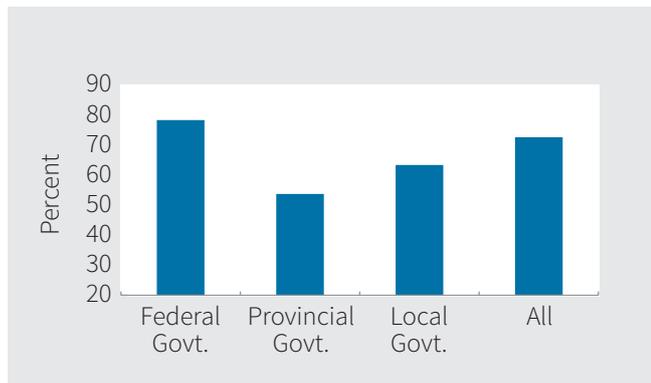
low of 47 percent. Bunching continued to be a problem, with 44.9 percent of capital spending taking place in the last quarter, down from the average of 59.6 percent in FY12–FY19.



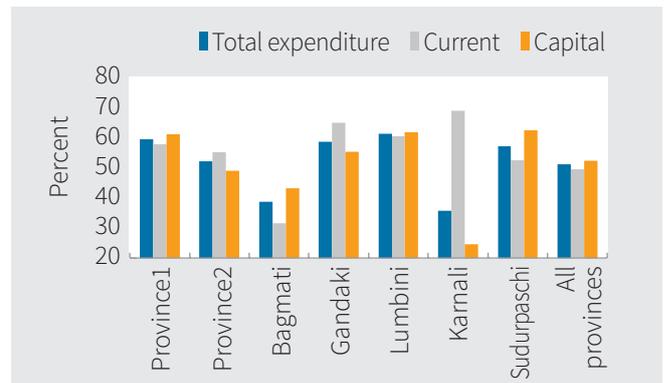
**a. Federal budget execution rate (FY12–FY20)**



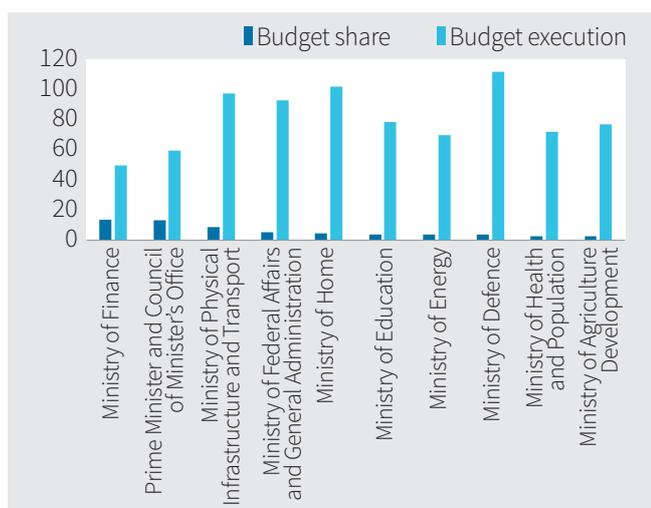
**b. Bunching of spending towards last quarter and last month (FY12–FY19)**



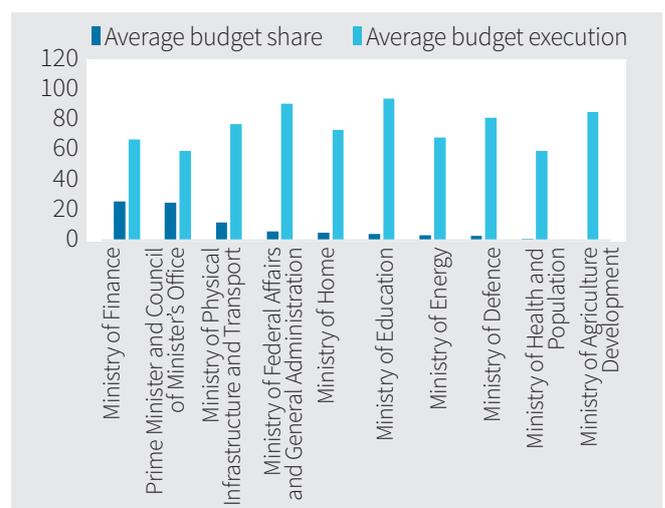
**c. Local government budget execution rate by source of financing (FY19)**



**d. Provincial budget execution rates (FY19)**



**e. Federal budget execution rate by line ministry (FY19)**



**f. Federal budget execution rates by functional classification (average between FY12 and FY19)**

**Figure 5.1. Budget execution patterns in Nepal**

**Source:** World Bank staff based on Ministry of Finance data.

**Note:** LM = last month; LQ = last quarter. In Figure 5.1c, the federal and provincial government categories include grants from received from these two sources. The local government category includes own-source revenue and revenue sharing.

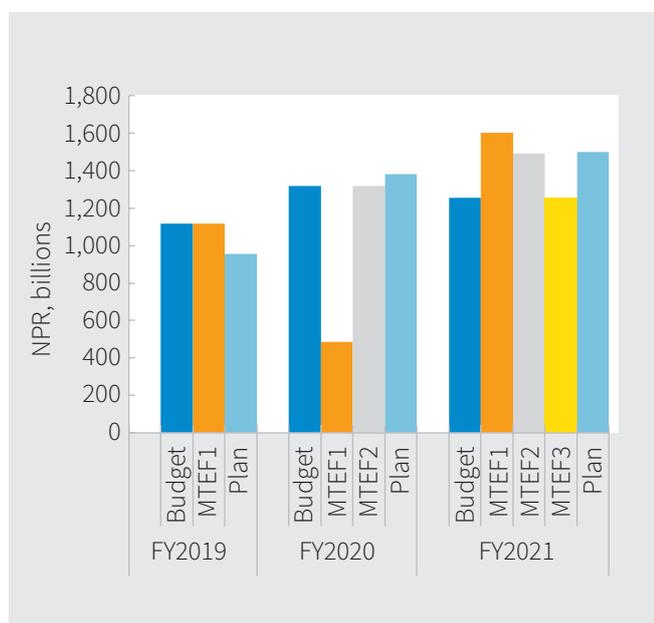
**Low budget execution rates generate fiscal costs and impact infrastructure development.** Due to challenges with budget execution, many capital projects are not completed as scheduled, which results in time and cost overruns. In FY19, there were 1,848 infrastructure development contracts (amounting to NPR 118 billion) that were not completed as initially scheduled, accounting for 43.3 percent of FY19 capital expenditure. Of the uncompleted contracts, 1,032 (55.8 percent) were not extended. These problems have caused significant financial and non-financial losses estimated at nearly NPR 270 million<sup>77</sup> or 11 percent of capital expenditure (CIAA 2019).

**Budget transparency is low and declining.** A budget transparency index developed by the International Budget Partnership assigns a score of 41 to Nepal’s FY19 budget, significantly below the “adequate” score of 61. Similar indices for public participation and budget oversight assign the country scores of 22 and 48, which again lie below the “adequate” level of 61. This development continues a trend in which Nepal’s budget transparency score has declined from 45 in FY10 to 41 in FY19.

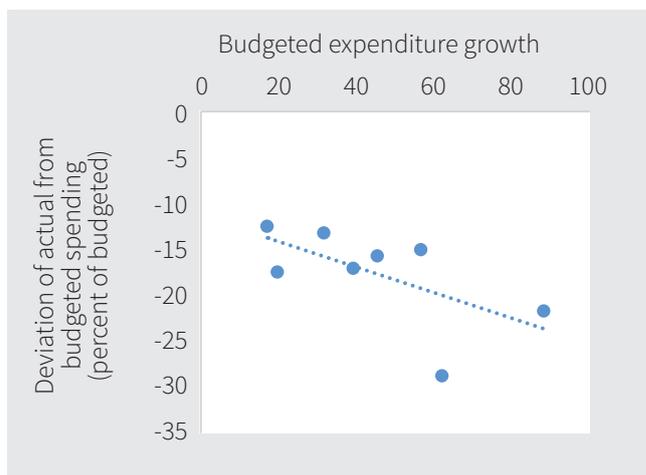
### 5.2.3. Unrealistic planning, budgets, and mid-year virements drive budget deviations

**Estimates for spending, especially on capital projects, differ significantly between periodic plans, the Medium-Term Expenditure Framework (MTEF) and annual budgets.** Nepal’s spending plans are outlined in three strategic documents, including Five-Year Plans, MTEFs (which cover three-year periods) and annual budgets. While these documents are intended to inform each other, significant discrepancies and misalignments exist. For instance, capital budget allocations in MTEFs and annual budgets are consistently lower than foreseen in the corresponding Five-Year Plans. By contrast, recurrent budget allocations are higher. Capital budget allocations in MTEFs also decrease over time, which has decreased the overall budget allocation for FY21 from 106.8 percent of the Five-Year Plan value under MTEF1 to 83.9 percent under MTEF3 (Figure 5.2a). This emphasizes that capital planning exercises are overly optimistic and not necessarily informative of real outcomes.

**Optimistic budget allocations are associated with lower budget execution rates, especially on the capital side.** Underspending tends to be higher if the budget projects above-average growth in spending (Figure 5.2b). For example, in the four of the last eight years when budgeted expenditure growth exceeded its time-series average, aggregate budget execution averaged



a. Total budget allocations in annual budget, MTEFs, and Five-Year Plans



b. Relation between budget growth and underspending (FY12–FY19)

**Figure 5.2.** Budget allocations for Nepal’s Five-Year Plan, MTEF and annual budgets

**Source:** World Bank staff based on Ministry of Finance and National Planning Commission data.

**Note:** Panels a–c: For FY19, “Plan” refers to the 14th Five-Year Plan, and for FY20 and FY21, it refers to 15th plan. MTEF1 is FY19–FY21; MTEF2 FY20–FY22; and MTEF3 FY21–FY23. METF1 coincides with FY19 budget, MTEF2 with FY20; and MTEF3 with FY21.

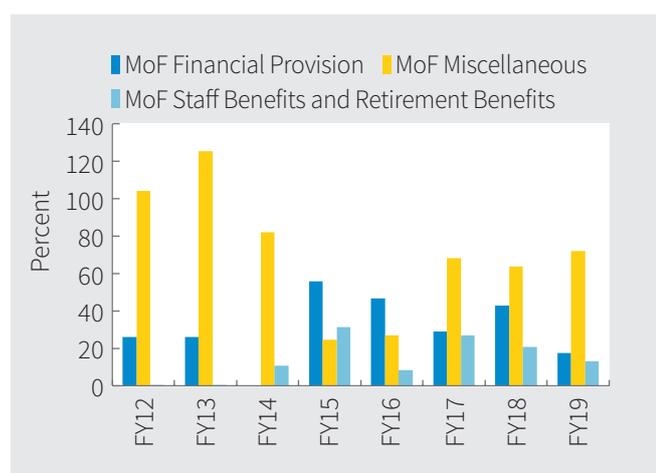
<sup>77</sup> This estimated nominal value is based on data from CIAA (2019), divided by capital expenditure for FY19 for the shares.

79.75 percent. By contrast, in years with below-average budgeted expenditure growth, budget execution rates were higher, at 85 percent. This pattern is especially pronounced for capital budgets.

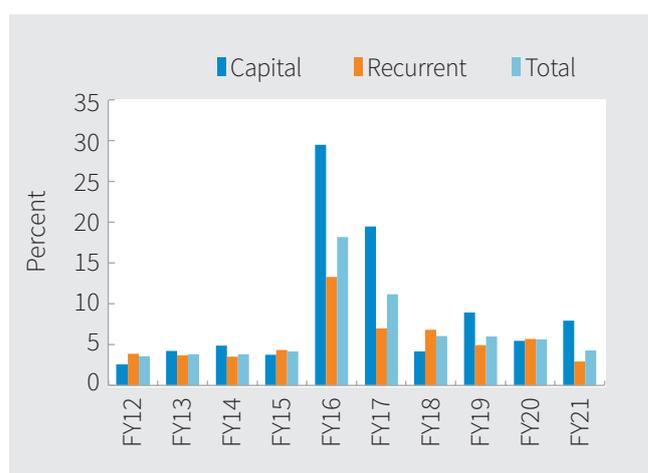
**The consistent use of mid-year virements<sup>78</sup> drives a wedge between actual spending and budgets.**

Virements are regulated by the 2019 Financial Procedures and Fiscal Responsibility Act, which specifies that they are not permitted to exceed 10 percent of budgeted spending, except for spending under three specific line items: MoF

staff and retirement benefits, MoF miscellaneous, and MoF financial provision staff. These lines have received substantial allocations in recent years and have acted as a significant source of virements (Figure 5.3a and 5.3b). As a result, they accounted for 39.4 percent of total budget deviations in FY19.<sup>79</sup> Most of the funds under the miscellaneous category are transferred to specific projects during the year, bypassing standard budgeting, planning, appraisal, and selection regulations before being included in the budget in the next fiscal year.



**a. Net virements (negative) as a share of original budget for three Ministry of Finance budgets**



**b. MoF miscellaneous budget as a share of total budget by economic class**

**Figure 5.3.** Ministry of Finance financial provision, miscellaneous, and staff and retirement benefits (FY12–FY19)

Source: World Bank staff based on Ministry of Finance data.

## 5.3. Institutional drivers of budget underexecution

The preceding discussion has highlighted that low budget execution rates, the disconnect between plans and actuals and significant mid-year virements drive low budget execution rates. This section summarizes the main constraints identified from an institutional review of Nepal’s budget planning and implementation procedures.

### 5.3.1. Planning occurs in an ad-hoc manner

The MTEF is the central longer-term planning document, but has not been effectively implemented for four reasons:

1. The National Planning Commission’s resource committee—which is tasked with developing

<sup>78</sup> Virements refer to transfers of funds between budgetary categories.

<sup>79</sup> Budget deviations are defined as the sum of absolute distances between actual and budgeted spending across budget lines.

macroeconomic forecasts that serve as inputs into the MTEF—lacks analytical and forecasting ability. As a result, developing the macroeconomic framework becomes an incremental exercise, so it is unable to provide credible and binding resource ceilings to line ministries.

2. Line ministries have weak planning capacity and do not follow good practice when preparing their own plans. The capacity needs far outweigh the support provided by NPC. Also, most templates and guidance documents are overly complex and not tailored to user needs. This means there is typically limited alignment between the National Planning Commission, Ministry of Finance, and line ministries on sectoral programs. Consequently, this limits the ability of the federal MTEF to accurately reflect line ministries' spending plans, and constrains the ability of line ministries' spending plans to effectively capture nationally defined priorities.
3. The timing of MTEF and budget preparation are misaligned. The budget is prepared in parallel with the MTEF and sectoral programs and projects are only identified as part of budget preparation. Line ministries typically only start preparing their own MTEFs after they receive their spending ceilings from the National Planning Commission.
4. The costing of entries into the MTEF pays limited attention to recurrent cost implications of public investments, as recurrent costs fall under the Ministry of Finance, while the National Planning Commission is responsible for finalizing capital budgets and the MTEF. As a result, some national pride projects are underfunded.

These factors contribute to an ad hoc preparation of the MTEF in which incremental amounts are added or subtracted from the previous MTEF, resulting in an expenditure framework that does not adequately capture future expenditure needs.

**Institutional constraints to planning are exacerbated by the lack of an integrated financial management system to support the reconciliation of outputs with spending and financing.** To address this, the FCGO is developing the Integrated Financial Management

Information System (IFMIS), which will receive, consolidate, and report on integrated financial statements of the three levels of government. However, many components of the new system have yet to be integrated and optimized, including a system to report and record revenue collected at PLG level.

**Similar challenges exist at the subnational level.** Most provinces and about 25 percent of local governments have successfully prepared periodic and sectoral plans, multi-year development plans, resource maps, and localized SDGs (World Bank 2019a). The quality of these plans, however, remains low and their content is delinked from annual budgets, workplans and projects, and federal government periodic plans. Similarly, provinces have started preparing MTEFs, primarily on an incremental basis and without aligning budgets and longer-term development plans. As a result, there are plenty of unfunded programs in annual plans and MTEFs that are not mentioned in the annual budget. Local governments have not yet prepared MTEFs, and do not develop capital investment plans to guide public investment prioritization in a systematic and efficient manner. Instead, they struggle with preparing and submitting budgets on time. In FY20, 141 local governments did not present their annual budgets to their respective assemblies within the legally stipulated timeframe.<sup>80</sup>

**Subnational PFM systems remain in transition.**<sup>81</sup> Since the on-set of federalism, significant progress has been made in establishing federal PFM systems: a treasury single account has been implemented across PLGs and the SuTRA expenditure and budget reporting system has been rolled out to local governments.<sup>82</sup> All local governments also have a functional procurement unit (World Bank 2019a). However, PLGs still lack critical budgeting tools, including an electronic asset inventory and management system, and a system for monitoring and recording infrastructure maintenance work.<sup>83</sup> This lack of tools is compounded by the slow adoption of existing IT systems, primarily due to capacity constraints and access to electricity and the internet. For example, by September 2020, 203 local governments had not used the SuTRA system and only 44 percent used it to prepare budgets.

<sup>80</sup> www.mofaga.gov.np.

<sup>81</sup> See the background paper on budget planning produced for this PER for a more detailed discussion of subnational PFM processes.

<sup>82</sup> SuTRA is a planning, budgeting, and accounting software to support the implementation of a structured financial management procedure for local governments, based on the Unified Charts of Accounts.

<sup>83</sup> Currently, only a paper-based assets inventory system is in place.

### 5.3.2. Capital project selection does not follow transparent procedures

**Effective project selection is a necessary precondition for impactful implementation.** International practice suggests that it should follow a four-step process:

**Step 1. Project screening** to ensure basic consistency with government policy and strategic guidance.

**Step 2. Formal appraisal** to examine the project costs and benefits.

**Step 3. Project prioritization** for inclusion in the budget.

**Step 4. Budget appropriation** to cover investment and recurrent cost implications and ensure adequate financing for selected projects.

**In Nepal, guidelines for project preparation and budget allocation that are aligned with international best practice exist.** In addition, the MTEF guidelines establish a process to screen and review projects proposed by line ministries. According to these, projects should be ranked according to their contribution to reducing poverty and achieving other national and sectoral priorities, especially the country's Five-Year Plans.

**In practice, gaps in the implementation and operationalization of these guidelines remain.**

Anecdotal evidence suggests that project appraisals and planning are not conducted systematically, especially for smaller projects. The applicable methodologies are also not tailored to the proposed project's sector or scale. Independent reviews are also rare. As a result, a pipeline of appraised and bankable projects is missing, which has led to ad hoc project financing decisions and the allocation of budgets to projects for which no detailed cost estimates, timeline information, procurement approaches, and other supporting documentation is available (World Bank 2017a).

**In some cases, project prioritization does not identify projects that are aligned with national plans.**

Instead, evidence suggests that prioritization is based more on political considerations instead of a rigorous application of the prioritization criteria and that, as a result, approvals of projects are conducted without a direct connection to national and sectoral strategies (World Bank 2017a).

**Project selection at provincial and local levels is constrained by a lack of plans and systems that generate the data needed to make informed decisions.**

Because most provinces do not have sector-specific plans or execute capital budget planning guidelines, an independent review of project screening and appraisal

is not feasible. There are no procedures for collecting data on operations and maintenance costs and local governments lack a system for monitoring and recording maintenance work.

### 5.3.3. Budget implementation faces procurement and resource constraints

**Due to the heavy focus on lowest cost bidding, Nepal's procurement system does not always identify the most qualified contractors to implement capital projects.** About 60 percent of Nepal's annual national budget (or 17 percent of GDP) is implemented through procurement (Gaywaly, Dahal, and Maharjan 2018). Despite its importance, procurement plans are either weak, missing or poorly implemented. This has resulted in adverse outcomes, including the selection of contractors whose capacity was too limited to complete projects on time, and joint ventures with ghost consultants. There is also evidence for collusion between bidders and procuring entities, with estimates suggesting that about 51 percent of firms in Nepal give gifts to secure government contracts, more than twice the regional average (Shrestha, 2019a).

**Implementation of several major infrastructure projects have been affected by complex problems related to land acquisition.**

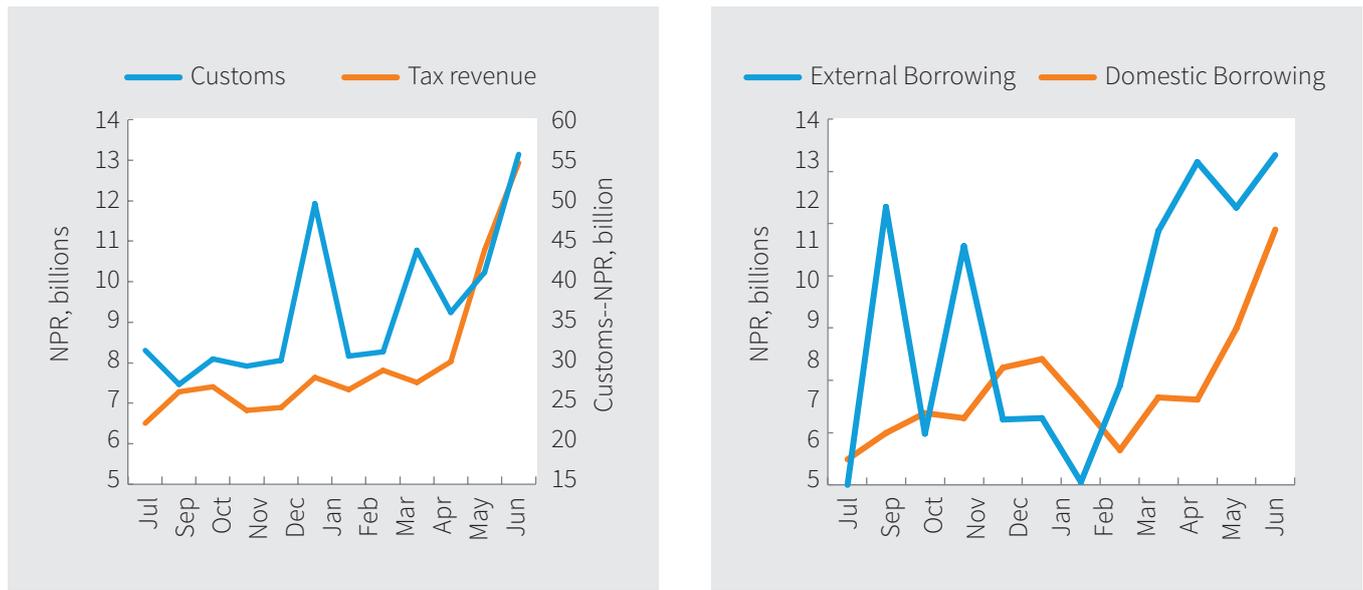
Examples include the Kathmandu-Tarai Fast Track, the dry ports in Larcha near Tatopani and Krishnanagar, a portion of the Postal Highway, and Nepal Electricity Authority's 132kV transmission lines around the Kathmandu Valley. Such challenges arise as local communities increasingly raise land prices once major government projects are announced, forcing the public sector to pay a significant premium. For example, communities near the proposed dry port at Larcha demanded a price five times higher than the agreed compensation amount of NPR 100,000 per ropani<sup>84</sup>, finally agreeing to accept NPR 210,000,<sup>85</sup> but delaying project execution and significantly increasing project costs.

**Weak capacity is one of the key drivers of these outcomes.**

While procurement capacity can vary across ministries—for example, the Infrastructure Ministry is better equipped for handling procurement than other line ministries—insufficient skills and incentives to effectively manage the procurement process have remained a persistent constraint. It is not mandatory for government project management staff to have “procurement certification”, and frequent staff rotation within line ministries makes it difficult to sustain and accumulate knowledge and institutional memory. Such challenges are

<sup>84</sup> One ropani is roughly equivalent to 508.72 m<sup>2</sup> or 5476 square feet.

<sup>85</sup> <http://www.1ropani.com/News/Default.aspx?ID=313>.



**Figure 5.4.** Average delays in the release of resources over the fiscal year (FY12–FY19)

**Source:** World Bank staff based on Ministry of Finance data. **Note:** Nepal’s fiscal year begins mid-July and ends mid-June.

further complicated by the ninth amendment to the Public Procurement Rules 2007 made in 2019 December,<sup>86</sup> which relaxes the requirement to adhere to project schedule and allows delayed or chronic projects to be extended by a year with no clear criteria or penalty.

**Similar challenges exist at the subnational level.** In the World Bank’s federalism capacity needs assessment, half of all provinces acknowledge having limited procurement capacity (World Bank 2019a). Although all provinces have adopted their own procurement guidelines and standards, some seconded civil servants are more comfortable with the federal procedures. Most provinces lack mechanisms for assessing suppliers and their performance. There are no mechanisms for appeals against decisions made in relation to procurement outside of the general grievance redress systems.<sup>87</sup>

**Procurement challenges are compounded by the delayed release of resources.** Revenues and public debt issuance in Nepal follow a pattern in which they are low early in the fiscal year and pick up as the year progresses (Figure 5.4). As a result, projects can only be implemented when a corresponding revenue inflow occurs, which pushes spending towards the end of the fiscal year. This problem also exists for subnational projects because of the delayed release of intergovernmental transfers (see chapter 2).

### 5.3.4. The new National Project Bank is expected to improve capital budget planning and implementation

**The recently established National Project Bank (NPB) represents a major step toward improving capital project management.** The NPB is a planned repository of projects that have been selected based on identification, appraisal, selection and prioritization guidelines (developed by the NPC) and are ready for federal government implementation. These guidelines provide a reference for the National Planning Commission, Ministry of Finance, line ministry planning divisions, and other relevant public entities to ensure that government-funded projects are planned and selected in an efficient, transparent, and harmonized manner. The NPB is expected to be fully operational by FY23.

**A key tool for implementing the NPB framework is the National Project Bank Management Information System (NPBMIS).** This is a computerized databank that became functional in FY21 and guides the project cycle. In November 2020, it contained data for 5,342 ongoing and 1,153 future projects. The NPBMIS follows a gateway framework based on three gates (Box 5.2), in which progression to the next stage depends on the project achieving a predefined level of readiness. Prioritization

<sup>86</sup> The 10th amendment of the Public Procurement Rules took place in April 2020.

<sup>87</sup> “Chronic” problems are those that remain incomplete or idle beyond the specified timeline. See Annex 7B for more information on chronic problems and the 9th Amendment.

occurs according to a project ranking matrix that considers contribution to growth and to the achievement of SDGs, among others. Projects will only be included in the MTEF and therefore eligible for budget funding once they are

in the NPBMIS and have passed Gate 3 (project selection and prioritization). The NPBMIS has been established in parallel with development of the IFMIS and a procurement database, but the systems are not yet interlinked.

### Box 5.2

## National Project Bank approval processes and protocol

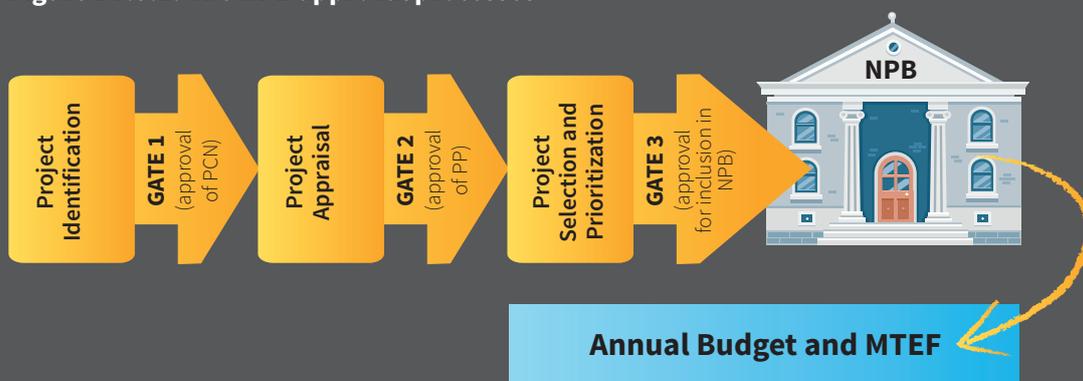
The NPB approval process and protocol consist of establishing standard phases (gate approval processes) for approving projects. This will ensure effective project selection and fund allocation from the project preparation phase to execution and monitoring. There are three gates in the approval process (Figure B7.5.1):

- Gate 1:** The relevant authority approves a project concept note for each individual project.
- Gate 2:** Feasibility study and the approval of a feasibility study report. Complex projects, such as large-scale infrastructure projects that require detailed engineering design, also require a detailed project report (DPR), though the NPB does not define the categorization of projects by sector and/or by scale that would require a DPR.
- Gate 3:** Projects are selected and prioritized according to criteria outlined in the NPB.

Once the project is approved to enter the NPB, it is included in periodic plans. Fund allocation takes place in coordination with the Ministry of Finance (MTEF) as per the Financial Procedure and Fiscal Responsibility Act, 2019 and the National Planning Commission’s MTEF Directives for project implementation.

Once under way, if a project is not progressing according to the implementation plan or if its priorities change, the approval process and protocol gives the approving authority an opportunity to adjust or terminate the project for better use of scarce resources.

Figure B7.5.1. The NPB approval processes



Source: National Planning Commission 2020.

Note: PCN-project concept note; NPB-National Project Bank; PP-Project Proposal.

**The NPB is expected to significantly improve budget and project planning.** By providing objective criteria for project preparation and selection and establishing a standardized link between project preparation and funding, the NPB is expected to enhance the quality and readiness of projects that are considered for funding. By using a line ministry-led, bottom-up approach to project preparation and providing clear projects details, data included in the NPB may also provide a basis for zero-based budgeting.<sup>88</sup> This is expected to enhance the credibility of both annual budgets and the MTEF.

**Despite its potential, successful implementation of the NPB will depend on filling procedural gaps.** A key challenge in operationalizing the NPB process involves the absence of supplementary guidelines and tools that allow for the differentiation of project screening and

appraisal methodologies based on the type and scale of project. The NPB will also need to develop a standardized process for independent review of project appraisals focused on transparency—including on how decisions are reached—and public access to information. Equally important, the NPB Guidelines will need to elaborate the processes to link project execution to design as outlined in the feasibility studies; and also clearly define the relevant factors that would trigger reviews, revisions to the scale, or discontinuation, of ongoing projects. Cost management systems—to control annual or total capital project costing—and other types of financial and physical PIM monitoring also will need to be determined. Finally, similar guidance tailored to the PLG context (along with capacity support) will need to be developed as the NPB is devolved to the provincial and local levels.

## 5.4. POLICY RECOMMENDATIONS: ALIGNING PLANS WITH OUTCOMES

**Strengthening Nepal’s budget performance depends on aligning plans with outcomes.** Underspending, low spending quality and bunching of expenditure in the last quarter have impacted the effectiveness of public spending in Nepal. Addressing this requires a policy strategy that considers the different state of development of public budgeting systems at federal, provincial, and local levels. At the federal level, strengthening the link between planning, budgeting, and expenditure—and continuing to develop the institutional framework—are vital. And with PLG-level budget system development a step behind the federal level, establishing the institutional framework is also a priority, particularly for those critical systems that are missing.

**The proposed policy roadmap is structured into three stages.** Immediate measures focus on improving coordination between different ministries and agencies, and across levels of government. In the medium term, the roadmap proposes focusing on strengthening systems to

improve budget planning, project selection, and project implementation. Finally, longer-term reform could focus on capacity building, particularly at the subnational level.

### 5.4.1. Immediate priorities: improving coordination

**Enhancing interagency coordination:** Strengthening coordination between the National Planning Commission, the Ministry of Finance and line ministries during the budget preparation process would help to improve budget credibility and project readiness. Nepal can consider enhancing two dimensions of coordination:

**1. Between the NPC and the MoF:** Enhanced coordination can be achieved either by establishing a strong joint team or institution tasked with leading the planning process, or by uniting the leadership for budget preparation within one of the two bodies.

<sup>88</sup> Zero-based budgeting strives to enhance the predictability and accountability in budgeting. “The process of zero-based budgeting starts from a ‘zero base’, and every function within an organization is analyzed for its needs and costs. Budgets are then built around what is needed for the upcoming period, regardless of whether each budget is higher or lower than the previous one.” (Kagan 2020).

**2. Between line ministries and MoF/NPC:** Key steps include developing and implementing well-defined guidelines that (i) harmonize communication channels and (ii) require all proposals to be fully costed and aligned with periodic plans and the MTEF. Nepal can also consider deploying full time staff to line ministries to enhance project preparation and help with coordination.

**Rolling out the NPB:** Five critical implementation steps remain for the NPB to achieve its potential:

**Step 1.** An initial step could include using zero-based budgeting to “prune” non-performing projects from the list of ongoing projects, to eliminate populist projects and ongoing programs that do not add value and drain resources. This can be done through a systematic portfolio review, for example. Reviews could also be automatically triggered when projects reach a certain time delay or cost overrun threshold, with the result of the review used to determine whether to cancel, restructure, or continue the project as planned.

**Step 2.** Nepal could consider adjusting NPB processes to allow the NPB to customize its procedures, depending on the project type—for example, through a threshold system. This would allow smaller projects to benefit from facilitated approval procedures, while also ensuring more complex and risky projects receive additional scrutiny to ensure quality.

**Step 3.** The NPB MIS should be fully operationalized by ensuring that the system accurately reflects decisions taken at each gate in the NPB process in a timely manner. To ensure effective project preparation and implementation, the NPB MIS should also be interlinked with planning systems used to prepare the periodic plans, MTEFs, and annual budgets, procurement systems and the IFMIS.

**Step 4.** Guidance for conducting cost-benefit, budgetary and socioenvironmental analyses should be adopted. While the NPB Guidelines include detailed screening and appraisal procedures, there is no clear guidance for undertaking cost-benefit, budgetary and socioenvironmental analyses.

**Step 5.** Adopted reforms should align the 2015 Public-Private Partnerships (PPP) Policy, the draft Public-Private Partnerships Act, and the NPB Guidelines, to ensure PPP projects are appropriately assessed in the PIM process. The NPB Guidelines explicitly mandate that PPPs are included in the framework as a financing modality and implementation approach, but the 2015 policy and the draft Act will need to be aligned with the guidelines.

## 5.4.2. Medium-term measures: strengthening systems

**Strengthening cash management and debt issuance strategy within the budget year:** The late timing of revenues and resource availability is a key factor that contributes to underspending. Improved cash management and debt issuance could be used to address this issue. This would require a more strategic approach to issuing debt so that resources are available earlier in the fiscal year, and debt is repaid later in the fiscal year when revenue collection is higher.

**Developing a framework for rule-based virements:** Addressing budget deviations from virements involves reviewing and amending the Appropriations (Allocations) Act to define conditions for mid-year virements that enhance budget credibility but are responsive to necessary adjustments. Incentives would support compliance with defined rules and conditions. This amendment could also involve provisions that govern the necessary reallocation of recurrent budgets for fixed costs and operation and maintenance costs, to help integrate recurrent and capital budgets. The amendment could also govern reallocations to meet spending needs in times of crisis.

**Adopting a legal framework for public procurement aligned to the new federal structure:** Several amendments have been made to the 2007 Procurement Act and its related rules. However, a more strategic and systematic legislation aligned to the federal structure, might be warranted. Amendments could include (i) clear and transparent criteria for project extension along with related penalties for non-compliance and (ii) improved guidance on land acquisition to better manage negotiations with communities and minimize documentation errors. Any new amendments to the law and regulations would need to be reflected in the NPB Guidelines.

**Completing longer-term plans at the PLG level:** To strengthen public investment at the PLG level, developing enhanced MTEFs, detailed physical infrastructure plans, facility improvement plans, and capital investment plans will be crucial. These plans would establish a long-term strategy for large infrastructure investments to address infrastructure gaps systematically and realistically. All PLGs could also consider designing effective mechanisms and processes to boost coordination and alignment between these and sector ministries’ medium-term plans.

### 5.4.3 Longer-term measures: building capacity

**Investing in technical skills:** Technical capacity to plan, budget and deliver results under the MTEF and annual budgeting processes are critical both at the federal level (involving Ministry of Finance, National Planning Commission, and line ministries) and subnational levels. Improving subnational governments' procurement capacity is especially crucial for addressing the fragmentation of large contracts, including excessive procurement by user committees—tasked with managing projects below NPR 100,000—without a formal tendering process. To bridge the gap until subnational capacity is built, the federal government could continue the practice of delegating staff to the PLG level by creating a dedicated pool of available human resources for this purpose. Capacity gaps at federal level could be filled by creating a separate professional subgroup within the civil service for planning and budgeting jobs, conducting regular trainings on macroeconomic analysis and project management and appraisals, and controlling staff turnover.

**Aligning incentives:** Staff lack incentives to perform and produce results when formulating and executing plans and budgets. This results in weak project implementation, ultimately undermining the quality of spending in Nepal. Corruption, the lack of performance-based incentives, and weak monitoring undermine staff incentives.<sup>89</sup> Strengthening staff incentive mechanisms to improve accountability could involve adopting and implementing adequate legislative measures in the Civil Service Act based on a review of the current incentive, performance contract, and personnel management systems. This would aim to introduce adequate legislative measures to make government staff accountable and align rewards and punishment with results-based performance. A study on the political economy of PFM reforms, with a focus on the design of aligned incentives, could also help identify doable reforms and their sequencing.

**Establishing an independent review function for capital projects:** Enhancing performance also involves strengthening review, monitoring and oversight of capital project planning and implementation. At the project appraisal stage, Nepal could consider instituting a credible independent review function. The designated review body could include representation from outside government (think tanks or academia) to ensure a transparent and open process for the public. This independent body could be tasked with reviewing project proposals and both prefeasibility and feasibility studies submitted by the spending agencies.

**Developing and interlinking critical IT systems across government levels:** Budget preparation is undermined by a lack of data. Addressing this challenge requires refining existing systems—including the LMBIS, PLMBIS, revenue reporting systems, and SuTRA—to make them ready for integration and ensure they comprehensively cover all data requirements at all levels of government. These systems should then be integrated with the new IFMIS to generate a comprehensive data system.

<sup>89</sup> Recently, a practice of “performance contracts” has been introduced for high-level executives.

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