CHAPTER 2

Mobilizing finance for sustained, inclusive and sustainable economic growth

1. Introduction

There are numerous policy actions that developing Asia-Pacific countries can undertake to achieve sustained, inclusive and sustainable economic growth. Examples of some suggested policy actions range from increasing fiscal spending to lift productivity growth and reduce inequalities to introducing measures aimed at addressing environmental degradation, natural disasters and climate change. A key consideration is how to mobilize financing, whether from the public and private sectors or domestic and external sources, to effectively pursue sustainable development. The challenge seems daunting. Past spending and allocation of available resources has not been adequate, while future requirements are likely to be even greater. In this chapter it is argued that, to meet the financing challenges, countries will need to not only channel existing financial resources towards sustainable development but also come up with additional financial means.

Specifically, the chapter contains an examination of how Governments of countries in the Asia-Pacific region could increase domestic public financial resources and leverage private capital to support sustainable development. The reasons to focus on these two policy areas are straightforward. Governments, which in most cases are incurring fiscal deficits, will need to lead investments in areas that have high social returns but relatively low commercial returns that make them less attractive to private investors. However, public finance alone will not be adequate for achieving the numerous policy suggestions highlighted above. As the size of assets being managed by business corporations, funds and financial institutions is enormous, the adequacy of financing seems not to be the main issue. Rather, countries will need to rethink how to efficiently channel these large available resources towards sustainable development. This is not an easy task. In many cases, this means a shift from making short-term, low-risk investments in developed countries to making longer-term, higher-risk investments in developing economies.

In complementing the analyses contained in previous issues of the ESCAP *Economic and Social Survey of Asia and the Pacific*, this chapter presents some estimates on the magnitude of the funds that countries could potentially mobilize as a consequence of various policy changes. On strengthening public finance, the analysis contains estimates of the revenue impact of better tax administration (as measured by the newly proposed composite index) and policies aimed at broadening the tax base, particularly rationalization of FDI tax incentives and the introduction of carbon taxes. In countries where development gaps remain wide but future public debt levels seem sustainable, which is indeed the case for most countries in the region, an assessment is made of the potential role of prudent sovereign borrowing in expanding the fiscal space. In particular, there is an examination of the extent to which government effectiveness and macroeconomic fundamentals can help increase the Government's ability to issue public bonds, both in domestic and foreign financial markets.

On leveraging private finance, the issue of how an enabling policy environment could help catalyse investment in infrastructure projects is studied in this chapter, especially under public-private partnerships. To facilitate the private sector's contribution to sustainable development, also discussed are the policies needed to deepen financial intermediation. The focus is on widening the investor base through increasing the role of institutional investors and diversifying financial instruments through the greater use of Islamic finance.

Some of the key findings of this chapter would suggest that the prospect for mobilizing financing for sustained, inclusive and sustainable economic growth is promising. For example, if developing Asia-Pacific economies could improve the quality of their tax administration to match the level that exists in OECD countries, this could generate additional tax revenues of 3-4 per cent of GDP in key emerging economies, such as China and India, and even larger revenues of up to 8 per cent of GDP in smaller economies. Similarly, conservative estimates on the revenue potential of a policy effort to expand the tax base are sizeable. For the region as a whole, government revenues could rise by about $60 billion per year by rationalizing FDI tax incentives and introducing carbon taxes. These illustrative changes in tax policies would help narrow the currently wide gap between the tax potential and the actual tax revenue collection in the region.

The results on the role of government effectiveness and macroeconomic fundamentals in supporting the fiscal space through public bond financing are also encouraging. The likelihood that domestic government bonds would be issued increases by about 2.1 times if the quality of government regulations improves from, for instance, the level in the Philippines to that in the Republic of Korea. Similarly, when a country's total indebtedness increases, say from 40 per cent of GDP to 50 per cent, the amount of public domestic bonds that could be issued tends to decrease by 1 per cent of GDP, which is sizeable relative to past issuance amounts in the region.

Finally, there is a strong association between the quality of the policy environment for public-private partnerships (PPP), as measured by a newly proposed composite index, and the size of PPP infrastructure investment. For example, if the quality of the policy environment in Bangladesh increases to the level found in Malaysia, the amount of PPP infrastructure investment could rise by almost 40 per cent. The results also point to the significant role played by an economy-wide legal and regulatory framework and PPP institutional arrangements, such as project preparation and procurement practices.

Importantly, the selected policy areas discussed in this chapter should be viewed as illustrative case studies on the magnitude of development finance that could be generated. Whether these policy actions are considered as relevant and important would depend on country-specific circumstances. Indeed, the task of identifying policy options to increase the fiscal space and leverage private capital should be guided by specific country conditions.

2. Sizeable investment gaps to achieve sustainable development

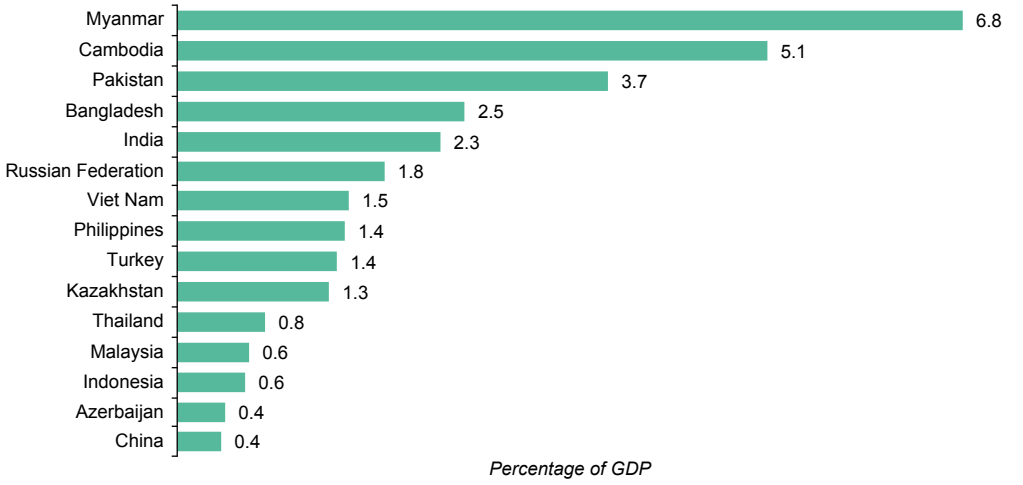
There are numerous policy actions that developing Asia-Pacific countries can undertake to achieve Sustainable Development Goal 8, namely sustained, inclusive and sustainable economic growth. Among other actions, an increase in fiscal spending is necessary to lift productivity growth and reduce inequalities. A wide range of policy measures also needs to be introduced to address environmental degradation, natural disasters and climate change. This section contains a review of some estimates on financing requirements and gaps to achieve sustainable development. Several studies have presented such estimates for all 17 Sustainable Development Goals, while others were focused on the investment needs and gaps for infrastructure only.

Achieving the Sustainable Development Goals will require a substantial increase in financial investments. Globally, Schmidt-Traub (2015) estimated that low- and lower-middle-income countries need on average an additional $1.4 trillion per year, or about 11.5 per cent of their combined GDP, during the period 2015-2030 in order to achieve Sustainable Development Goals in such areas as health, education, food security, infrastructure, ecosystem services and humanitarian work. For all developing countries worldwide, UNCTAD (2014) estimated that such additional investment requirements would increase by $2.5 trillion per year during the same period, based on the annual investment needs of about $3.9 trillion and current spending at $1.4 trillion. Both studies suggested that investment needs for economic infrastructure, such as transport, energy, telecommunications and water and sanitation, are much higher than other investment areas also needed to achieve the Goals. In Schmidt-Traub (2015), infrastructure was found to account for about 70 per cent of the total investment needed. In UNCTAD (2014), transport, such as roads, rail and ports, alone was estimated to cost more than the health and education-related Sustainable Development Goals combined.

Studies that are focused only on infrastructure would also suggest that the amount of required financial investments far exceeds the prevailing trends. McKinsey Global Institute (2016) estimated that global infrastructure investment needs would stand at $3.3 trillion per year over the period 2016-2030. China and India together would account for about 35 per cent of this amount. For developing Asia-Pacific economies, ADB (2017a) suggested that the infrastructure investment gap, after taking into account additional costs to make infrastructure more climate-resilient, will be about $460 billion or 2.4 per cent of GDP per year during the period 2016-2020. If China, which has a relatively small investment gap, is excluded, the average gap for the remaining countries would rise to about 5 per cent of GDP. For individual Asia-Pacific economies, Global Infrastructure Hub (2017a) showed that infrastructure investment shortfalls are as large as 4-7 per cent of GDP in Cambodia, Myanmar and Pakistan (Figure 2.1). Finally, ESCAP (2017a) revealed that the infrastructure investment needs in a group of 26 countries with special needs (least developed countries, landlocked developing countries and small island developing States) in the Asia-Pacific region will be up to 10.5 per cent of GDP on average per year during the period 2016-2030. Such an estimate far exceeds the current infrastructure spending trend of 4-7.5 per cent of GDP in this group of economies.

While these estimates are all indicative, varying and not generally comparable,[1] they all point to the need for a considerable boost to future investment in order to promote sustainable development and to make economies resilient, inclusive and sustainable. Past spending and allocation of available resources has not been sufficient, as demonstrated by the large number of people who are still malnourished and lack access to electricity and clean water. Ongoing structural shifts are likely to place even greater pressure on future investment needs, especially in infrastructure. For example, rapid urbanization would require better urban transport and telecommunications systems, while climate change increases the demand for climate-resilient infrastructure. Similarly, the need to strengthen social protection is increasing in order to enhance economic resilience and social

Figure 2.1. Estimated infrastructure investment gaps in selected Asia-Pacific economies



Source: Global Infrastructure Hub, Global infrastructure outlook. (Sydney: GIH, 2015). Available from https://outlook.gihub.org.

inclusiveness, especially in view of the challenges of poverty and inequality and the further risks arising from demographic transitions and labour market disruptions associated with reforms and rapid technological advancements.

3. Mobilizing development finance: flow of funds and selected focus areas

As developing countries need to markedly increase their investments to achieve the Sustainable Development Goals, two key policy considerations are how to better channel the available financial resources and how to secure more financing for such investment. This section contains an illustration of the flow of funds in a given country; it is noted that there are numerous ways that countries can explore in order to mobilize development finance.[2] As such, this section highlights selected areas on which this chapter is focused.

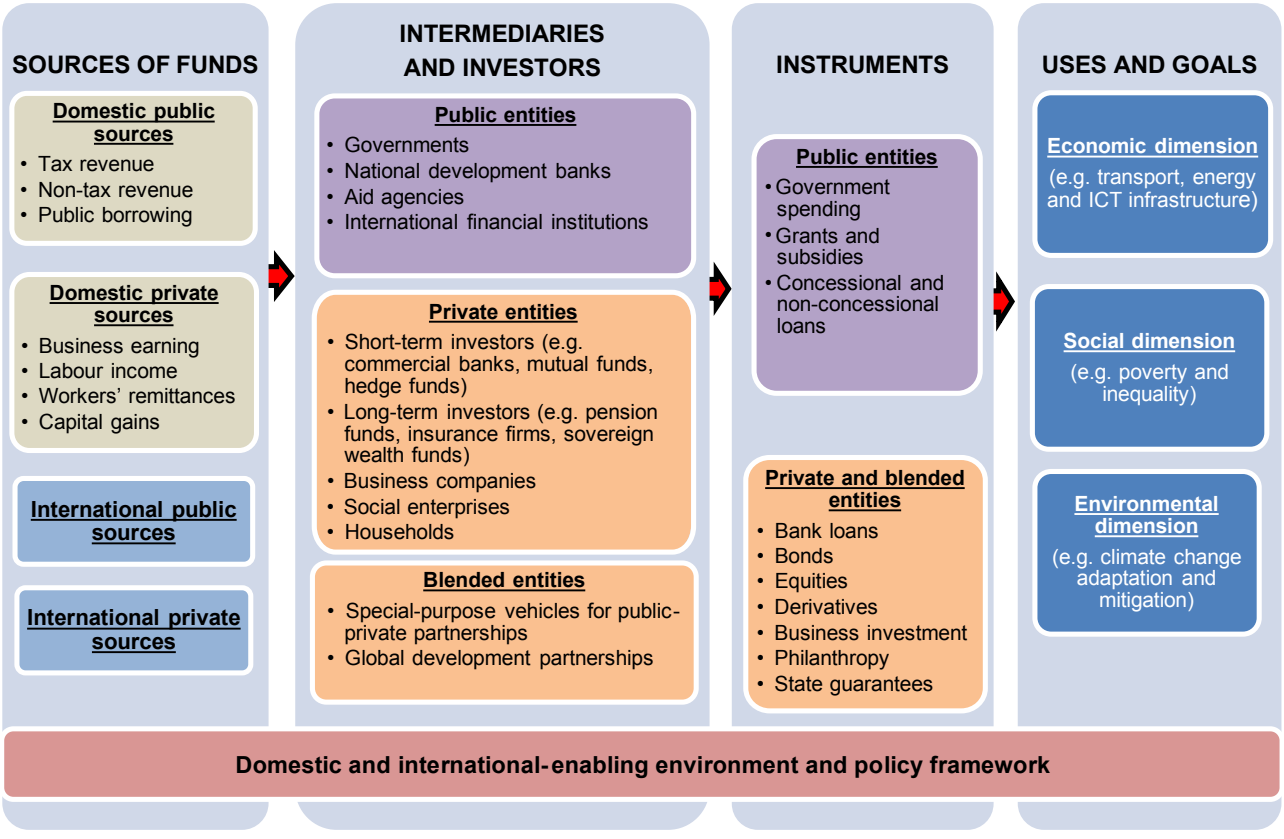
3.1. Flow of funds

The flow of funds involves various sources of funds (public/private and domestic/international) and intermediaries that channel available funds to promote sustainable development through a wide range of instruments.

Figure 2.2 depicts an illustrative flow of funds. In the context of public finance, an obvious example is the mix of government spending, concessional loans by national development banks and grants provided by foreign donors to promote social development, such as through poverty reduction programmes. In the context of private finance, business firms, financial companies and institutional investors can contribute to, among others, tax revenues and business investments. For blended finance, the Government may provide State guarantees, while private construction companies work with commercial banks to deliver large-scale infrastructure projects under public-private partnerships.

The magnitude of assets and funds held by private companies, banks and monetary authorities in the Asia-Pacific region is very large. The two panels of Figure 2.3 depict selected indicators on available financing on a stock and flow basis. As shown in panel A, the combined value of international reserves, excluding gold; market capitalization of listed companies; and assets held by financial institutions, insurance companies and mutual, pension and sovereign wealth funds in developing Asia-Pacific economies is estimated at about $56.2 trillion. This is about 2.6 times the combined GDP values of developing countries in the region in 2016. Similarly, panel B shows that the region exhibits sizeable domestic savings. The combined GDP value after deducting total

Figure 2.2. Illustrative flow of funds for development finance in a given country



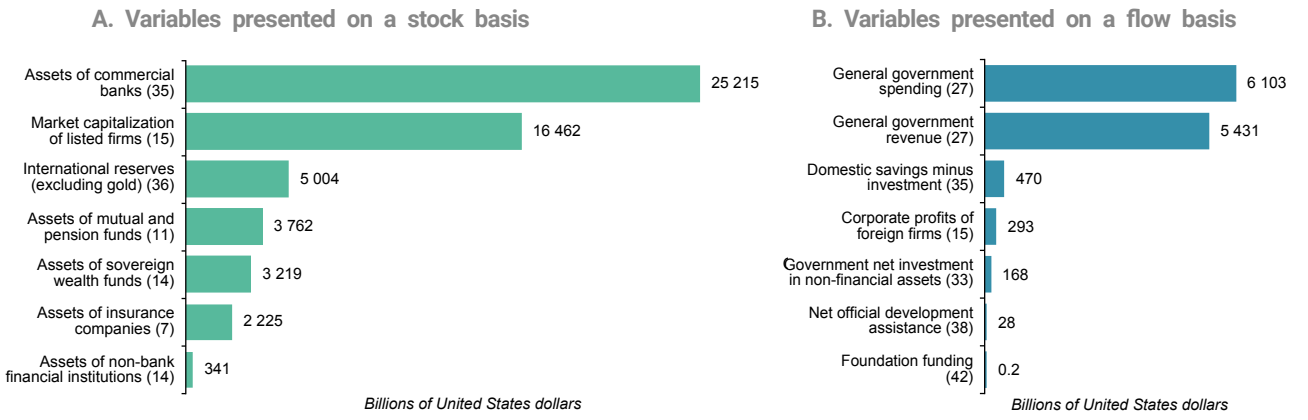
Source: ESCAP, based on United Nations System Task Team (UNTT), Report of the Intergovernmental Committee of Experts on Sustainable Development Financing" (New York, 2014).

consumption and gross capital formation stood at about $470 billion in 2016. Such a huge amount alone is enough to finance investments needed to close infrastructure gaps in the region, which are estimated at $460 billion a year (ADB, 2017a).

Part of assets and funds under management by the private sector could potentially be mobilized for development purposes. For example, as will be discussed in more detail below, an appropriate policy environment could increase the investments made by institutional investors, such as pension funds and insurance companies, into long-term infrastructure projects. Similarly, listed firms and commercial banks could directly support social inclusiveness and environmental sustainability through initiatives, such as impact investment and corporate social responsibility.

Given the Government's prominent role, an important avenue is effective use of available fiscal resources and enhancing the fiscal space. For most countries, a desirable increase in government spending may need to be accompanied by greater efforts to boost revenues. Total spending by general Governments, which has played a key role in supporting sustainable development, amounted to $6.1 trillion in 27 developing Asia-Pacific economies in 2016 (panel B of Figure 2.3). This amount far exceeded government revenues, resulting in a fiscal deficit of $672 billion in the same year. While overall public debt positions currently seem to be sustainable, the situation may change as Governments step up their efforts to implement the 2030 Agenda. Apart from revenue enhancement, additional public financial resources may be achieved through more effective expenditure management so that greater development impacts could be attained for the same, or an even smaller, amount of fiscal resources. One example is to ensure that public investment in non-financial assets, which

Figure 2.3. Selected indicators on size of available financing in selected economies



Source: ESCAP, based on World Development Indicators Database, Global Financial Development Database, Orbis database, SDGfunders.org and Sovereign Wealth Fund Institute.

Notes: Figures in parentheses indicate the number of developing Asia-Pacific economies on which calculations are based. The data period for most indicators is either 2015 or 2016.

stood at almost $170 billion in 2016, or about six times the official development assistance that the entire region received in the same year, is adequately allocated to development objectives.

3.2. Focus areas of this chapter

One message that may be drawn from Figure 2.3 is that a country's efforts to mobilize development finance could be focused on two broad areas, namely enhancing domestic public finances and leveraging private capital. The need to strengthen public finances is obvious. Most Governments in the region are incurring fiscal deficits at the same time that their greater development needs require larger levels of public spending. Governments are expected to lead an effort to achieve components of the Sustainable Development Goals that have high social returns but relatively low commercial returns, a situation which makes them less appealing to private investors. For example, Schmidt-Traub (2015) noted that financing of the Goals relating to public health, education and emergency response and humanitarian work is likely to be borne fully by the public sector. Moreover, government spending is de-risking. Public investments, such as those aimed at improving the judicial system and setting up an effective natural disaster prevention system, help to reduce a country's systemic risk (Roy, 2017). Meanwhile, the adoption of the comprehensive 2030 Agenda means that public finance alone will not be adequate in achieving the Sustainable Development Goals. As noted above, the volume of private capital is enormous, and there is clearly more room to increase the private sector's contribution to sustainable development.

Within the broad areas of strengthening public finance and leveraging private capital, this chapter is focused on the following three dimensions:

(a) Strengthening tax revenues, including through improving tax administration and expanding the tax base;
(b) Prudent sovereign borrowing from domestic and international financial markets;
(c) Leveraging private capital, including through enhancing a policy environment for public-private partnerships and deepening financial intermediation.

The focus on tax revenues and government borrowing is a continuation of the work of ESCAP on fiscal policy in recent years. For example, on government borrowing, ESCAP (2013) argued that Governments in the Asia-Pacific region could consider additional borrowing if a country's development gaps remain wide, public debt is deemed sustainable and fiscal resources are spent on areas that help lift a country's potential economic growth. On tax revenue, ESCAP (2014)

showed that actual tax collections are currently below their potential; that study highlighted the need to improve tax administration and expand the tax base in order to narrow the tax gap. This chapter expands and deepens these analyses.

4. Strengthening tax revenues

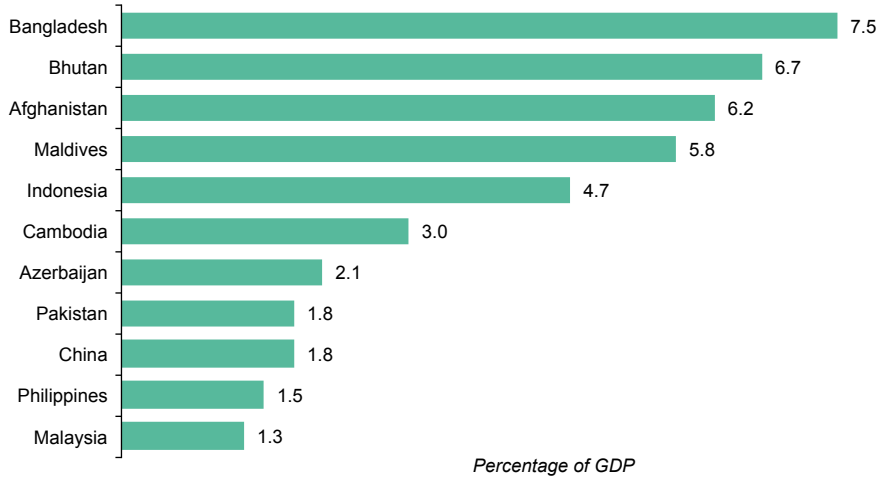
Actual tax collections have fallen short of their potential levels in the Asia-Pacific region. ESCAP (2014) estimated the tax potential in Asia-Pacific economies, based on each country's economic structure, including such factors as agricultural value added, GDP per capita level and the degree of trade openness.[3] The analysis showed that actual tax collection levels were below their potential levels in 17 Asia-Pacific economies with available data. Such tax gaps are estimated to be more than 6 per cent of GDP in such countries as Afghanistan, Bangladesh, Bhutan and Maldives (Figure 2.4). While already large, these estimates of tax gaps may be viewed as conservative. In Langford and Ohlenburg (2015), the tax gap in 13 developing Asia-Pacific economies was estimated at 13.6 per cent of GDP on average. To narrow the tax gap, ESCAP (2014) emphasized the need to: (a) enhance tax administration by, among other things, streamlining procedures and making greater use of information and communications technology; and (b) expand the tax base by rationalizing existing tax exemptions, introducing new taxes and tackling tax evasion and fraud.

This section expands and deepens the analysis carried out in ESCAP (2014). In particular, it contains an examination of the extent to which recommended tax policies, if implemented, would help to narrow the tax gap in Asia-Pacific economies. Through a newly proposed index that measures the quality of tax administration across Asia-Pacific economies, the potential revenue impact of better tax administration is provided below, and this is followed by an exploration of the revenue impact of a wider tax base, particularly through the introduction of a carbon tax and the rationalization of tax incentives to attract foreign direct investment.

4.1. Improving tax administration

Better tax administration contributes to higher tax revenue collection and other economic benefits by reducing tax avoidance and evasion, including by influencing people's willingness to pay taxes. For instance, in India a recent study showed that tax revenue in the state with the least effective tax administration could increase by at least 57 per cent if its tax administration efficiency were to improve to the level being observed in the country's best-performing state (Das-Gupta, Estrada and Park, 2016). The benefits

Figure 2.4. Estimated tax gaps in selected Asia-Pacific economies



Source: ESCAP, *Economic and Social Survey of Asia and the Pacific 2014: Regional Connectivity for Shared Prosperity*. Sales No. E.14.II.F.4. Available from www.unescap.org/sites/default/files/Economic%20and%20Social%20Survey%20of%20Asia%20and%20the%20Pacific%202014.pdf.

of effective tax administration also go beyond tax revenues. In a sample of developing economies worldwide, Dabla-Norris and others (2017) noted that better tax administration helps narrow the productivity gaps between small and large firms, as smaller companies typically face higher tax compliance costs.

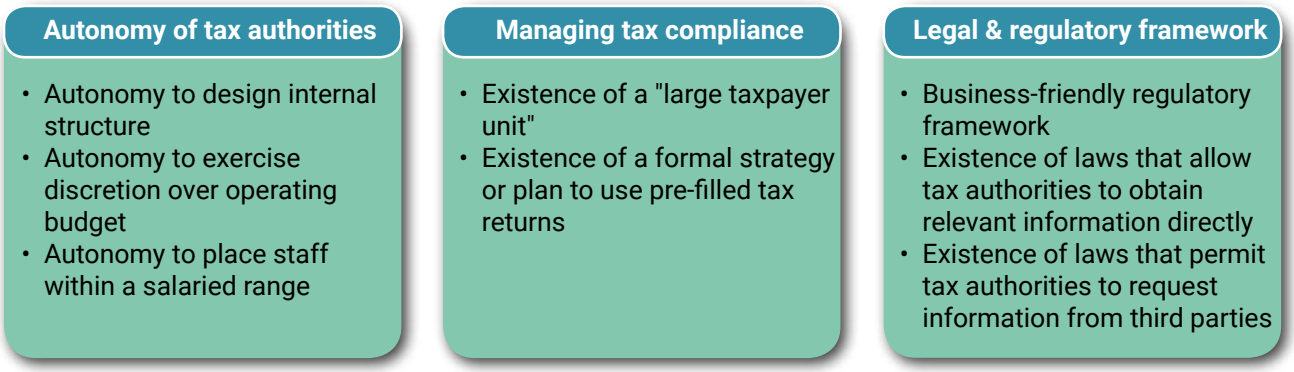
The quality of tax administration depends primarily on the institutional set-up of tax authorities and an economy-wide legal and regulatory framework in which tax authorities operate. As such, enhancing tax administration is possible through various means. Examples include introducing effective tax legislation and ensuring its enforcement, increasing the use of ICT in tax operations, adopting risk-based compliance control, training of tax officials and close consultation with relevant stakeholders (World Bank, 2011). In Dabla-Norris and others (2017), the quality of tax administration was assessed through four performance areas, namely taxpayer information, filing and payment, post-filing processes and the accountability and transparency of tax authorities. Crandall (2010) noted that some indicators of good tax administration include a low cost-to-collection ratio, a high actual-to-target tax revenue ratio and high filing and payment compliance rates, as well as the timeliness and quality of tax services.

A new composite index is proposed in this section; it measures the extent to which the institutional setting and policy environment enable tax authorities to address tax avoidance and evasion, thus enhancing the efficiency of revenue collection. Consistent with World Bank (2011), the newly proposed "Tax Administration Index" can be used to examine three dimensions of tax administration: (a) institutional arrangements that grant autonomy to tax authorities; (b) core business functions that facilitate compliance risk management and use advances in technology to enhance tax collection; and (c) a legal and regulatory framework that enables tax authorities to gain access to information in order to validate taxpayers' liability. These dimensions of tax administration represent three equally weighted sub-indices of the composite index. Figure 2.5 shows the components of the three sub-indices.

The Tax Administration Index is based largely on information obtained from surveys of tax authorities in the Asia-Pacific region and beyond.[4] ADB (2016c) and OECD (2017a) conducted surveys of tax authorities on various aspects of tax administration, such as institutional design, budgeting, compliance risk, human resources management and use of ICT in tax operations. The newly proposed index is available for 60 economies, of which 14 are developing Asia-Pacific economies. The data period is 2015. Technical details of the index are presented in annex I.

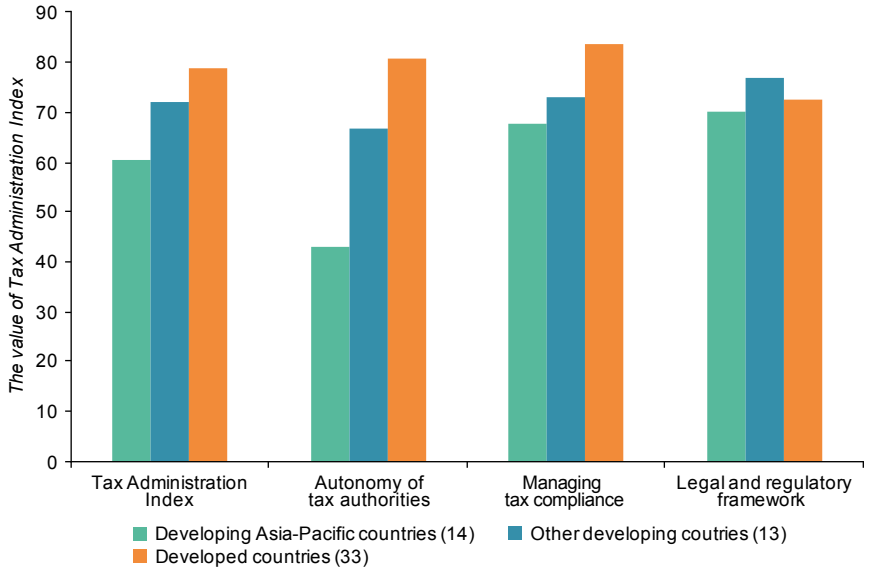
The quality of tax administration in developing Asia-Pacific economies appears weaker than that in developed countries and developing countries in other regions of the world. Figure 2.6 shows that the region lags in all three sub-indices of the Tax Administration Index.

Figure 2.5. Components of the Tax Administration Index



Source: ESCAP analysis.

Figure 2.6. The Tax Administration Index in developing Asia-Pacific economies and beyond

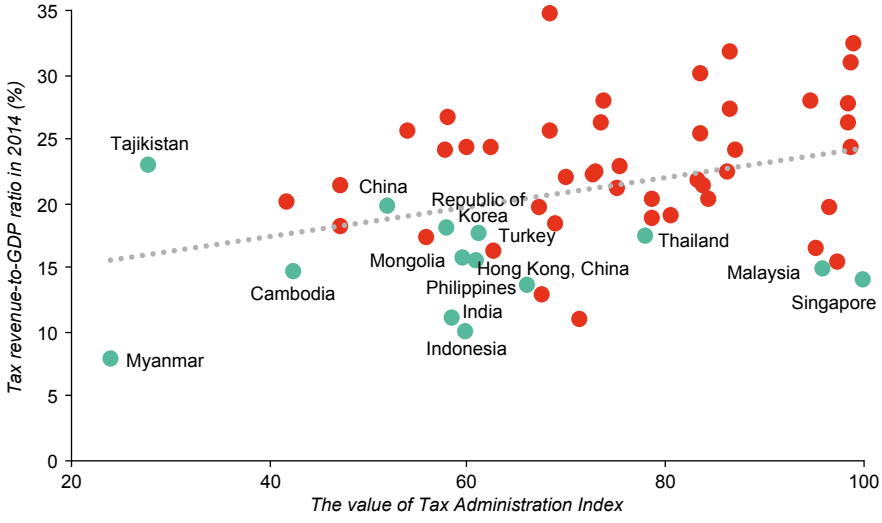


Source: ESCAP, based on Organisation for Economic Co-operation and Development (OECD), *Tax Administration 2017: Comparative Information on OECD and Other Advanced and Emerging Economies*. Paris: OECD Publishing; Asian Development Bank (ADB), A Comprehensive Analysis of Tax Administration in Asia And The Pacific: 2016 edition. Manila, Philippines; and Worldwide Governance Indicators.

Note: The figures in parentheses indicate the number of countries with available data. Other developing countries are Argentina, Brazil, Bulgaria, Colombia, Costa Rica, Croatia, Cyprus, Lithuania, Malta, Morocco, Peru, Romania and South Africa.

Globally, countries with better-quality tax administration tend to exhibit stronger tax collection capacity. Figure 2.7 depicts a positive relationship between the value of the Tax Administration Index and the tax-to-GDP ratio in 59 developed and developing economies worldwide in 2014. Interestingly, the chart would also suggest that the tax-to-GDP ratios in developing Asia-Pacific economies are often lower than those in other regions of the world with a similar quality of tax administration. Among others, two possible explanations are the existence of large informal sectors in several economies in the region and the policy choice Governments make to maintain

Figure 2.7. Scatter plot between Tax Administration Index and tax revenue-to-GDP ratio



Source: ESCAP analysis.

Note: The dots highlighted in green represent 14 developing Asia-Pacific economies.

a low-tax environment in order to support the competitiveness of business sectors in such countries as Malaysia and Singapore.

The potential revenue impact of improved tax administration is estimated to be significant. In a regression analysis that was carried out to explain the level of the tax-to-GDP ratio across countries, it was found that a one-point increase in the value of the Tax Administration Index is associated with a tax revenue increase of 0.15 per cent of GDP (see annex I for technical details). To illustrate the magnitude of such a relationship, if a statutory change is made to allow tax authorities in Cambodia to design their own internal structure, this step alone could increase the value of the Tax Administration Index in Cambodia by about 11 points, so that country's tax revenue could rise by almost 1.7 per cent of its GDP. If the quality of tax administration in individual Asia-Pacific economies is assumed to match the level observed in an average OECD country, the potential increase in tax revenue could be as high as 8 per cent of GDP in Myanmar and Tajikistan, and about 3-4 per cent of GDP in larger countries, such as China, India and Indonesia (Figure 2.8).

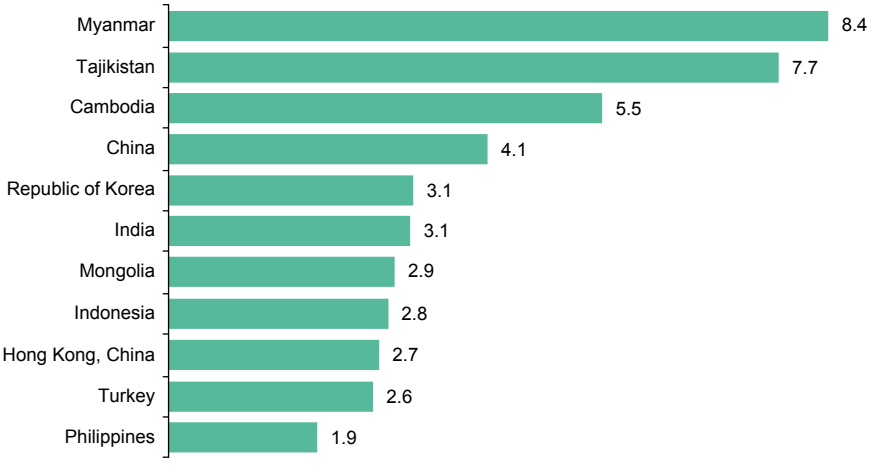
4.2. Expanding the tax base

Conceptually, expanding the tax base may be achieved by rationalizing existing tax exemptions and introducing new tax instruments. This section contains two illustrative cases that reflect these policy options: (a) rationalizing tax incentives that are offered to attract foreign direct investment (FDI); and (b) introducing a carbon tax. In ESCAP (2014), the rationalization of FDI tax incentives, especially through means of greater regional cooperation, was put forward as a key policy recommendation. The discussion in this section may be considered as a follow-up analysis. Meanwhile, a carbon tax has been selected as the case for introducing a new tax instrument in view of the significant positive impact it could have on environmental sustainability.

Rationalizing tax incentives for foreign direct investment

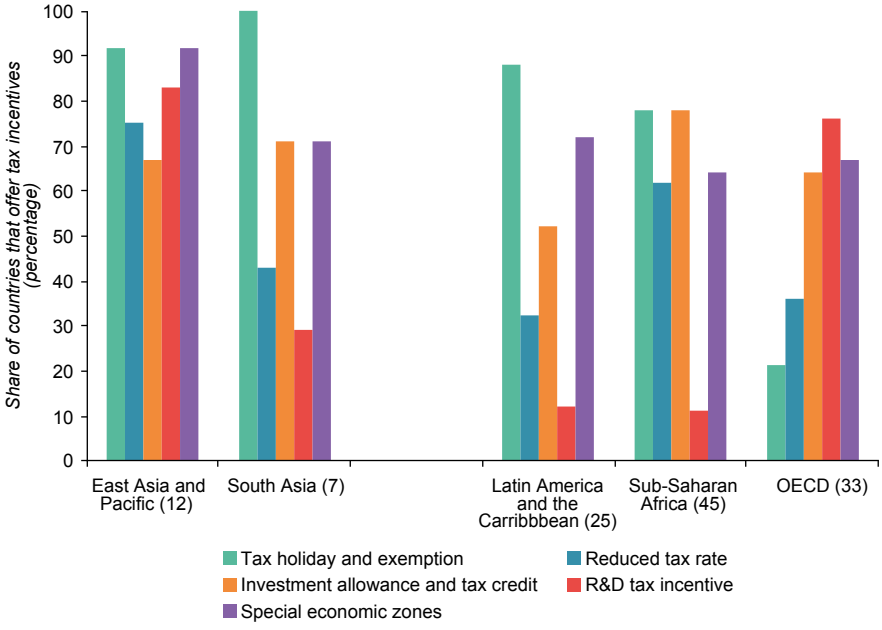
The Asia-Pacific region offers more tax incentives to attract foreign direct investment than other regions of the world. In East and South Asia, virtually all economies offer tax exemptions (Figure 2.9). Moreover, at least two thirds of these economies offer investment tax credits and other tax benefits when firms operate in special economic zones. In general, tax incentives are offered as a way to compensate for deficiencies in infrastructure, burdensome regulatory framework, political instability or lack of natural resources. In other cases, tax incentives are provided in response to a race among regional peers to offer more generous benefits to foreign investors. In many cases, these tax incentives for FDI have led to profit shifting and erosion of the tax base.

Figure 2.8. Potential revenue impact of better tax administration



Source: ESCAP analysis.

Figure 2.9. Use of foreign direct investment tax incentives in selected regions of the world in 2014



Source: ESCAP, based on Sebastian James, *Effectiveness of investment incentives in developing countries: evidence and policy implications* (Washington, D.C., World Bank, 2014). Available from www.tepav.org.tr/upload/files/haber/1285937438-5.Effectiveness_of_Tax_Incentives_in_developing_countries___Policy_and_Evidence___TEPAV_Sept_2010_B_W.pdf.

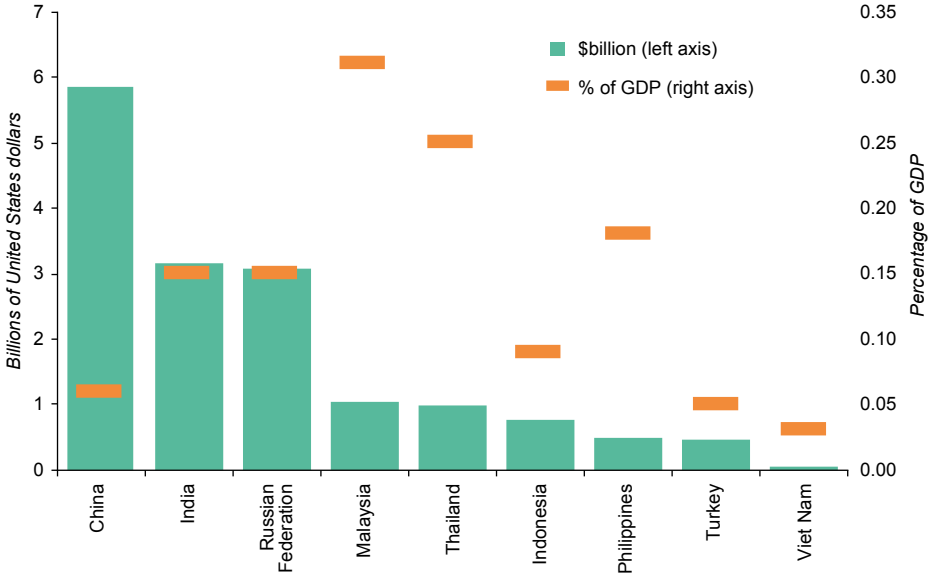
Note: Figures in parentheses indicate the number of countries covered in each group of countries.

This section contains an estimation of the size of tax expenditure relating to FDI tax incentives in developing Asia-Pacific economies. Based on a methodology highlighted in IMF, OECD, United Nations and World Bank (2015), the revenue foregone was calculated as the difference between the tax actually paid and the tax liability under a hypothetical case in which there were no FDI tax incentives; thus, the statutory corporate income tax rate was applied to profit before taxes. To consider various deductions to which firms are entitled, such as depreciation allowance, the analysis subtracted 13 per cent of profits before applying the statutory tax rate. That figure is the median value of the ratio of depreciation to profit before taxes ratio during the period 2013-2015.

While not substantial, the revenue forgone due to FDI tax incentives is estimated to be sizeable nonetheless. Based on firm-level financial data of more than 28,500 registered foreign companies in 9 developing Asia-Pacific economies, the total tax expenditure has been estimated at close to $16 billion in 2014 (Figure 2.10). In major FDI destinations, such as Malaysia and Thailand, the size of the tax revenue forgone is up to 0.3 per cent of GDP. Annex II shows the estimated tax revenue forgone under scenarios that assume larger and smaller depreciation allowances than the baseline calculations.

The true economic cost of FDI tax incentives may be underestimated here. Conceptually, quantifying the size of tax revenue forgone is challenging. Among other reasons, the estimated tax expenditure could be underestimated due to international tax avoidance techniques, such as transfer pricing. Similarly, business losses that are carried over from previous years and tax deductions for charitable donations make firms' observed tax liability smaller than the hypothetical-case tax liability. More importantly, the race among regional peers to offer a more enabling business environment has incentivized Governments to cut corporate tax rates. Applying the existing statutory tax rates, which is what the analysis in this section did, would underestimate the full cost of tax expenditures. On the other hand, the tax revenue forgone could be overestimated also because some investors may have chosen not

Figure 2.10. Potential tax expenditure on foreign direct investment incentives



Source: ESCAP, based on firm-level data in the Orbis database. Available from https://orbis.bvdinfo.com.

to invest without tax incentives. In noting these methodological limitations, the estimates provided could still inform the order of magnitude of tax revenues available if Governments wish to rationalize their FDI tax incentives.

A broad policy message here is that countries need to consider carefully the objectives and effectiveness of existing tax incentives. The policy aim should be to strike the right balance between an attractive tax regime for business investment and securing public revenues. In countries where the administrative complexity of FDI tax incentives has increased the opportunities for corruption or where the knowledge spillovers of foreign investment are limited, generous tax incentives may be reconsidered. Nonetheless, country experiences show that tax incentives have also been used to meet economic objectives other than promoting foreign investment (Jun, 2017). For example, countries may explicitly give preferential tax treatments to domestic firms over foreign companies because domestic companies tend to contribute more to tax revenue in view of their limited capital mobility. In another example, tax incentives can be used to incentivize firms, especially small and medium-sized enterprises, to remain in the formal sector in order to maintain the size of the tax base.

While Governments may consider rationalizing FDI tax incentives where needed, a policy priority should be to improve the investment climate by offering a business-friendly regulatory framework and decent infrastructure. In a survey of investors in Thailand and Viet Nam, more than 80 per cent of respondents stated that an FDI project would still have been made in these countries even without tax incentives (James, 2014). Moreover, studies have shown that these factors have a larger impact on attracting FDI than tax incentives (Van Parys and James, 2010; Muthitacharoen, 2017). At the regional level, policymakers could strengthen cooperation that would help to avoid a race among regional economies to offer more generous FDI tax benefits.

Introducing a carbon tax

While tax instruments, such as corporate and personal income taxes, import tariffs and sales taxes, are in place in most countries, there are many other taxes which are less commonly adopted. Examples of such taxes are wealth-based taxes, such as taxes on financial transactions (see box 2.1), inheritances and gifts, and taxes that are designed to discourage "public bads", such as taxes on carbon emissions, use of natural resources, airline tickets and use of vehicles in

Box 2.1. Financial transaction tax

A financial transaction tax (FTT) is a tax that is levied on the transfer of ownership of financial assets, such as stocks, bonds, foreign currencies and derivatives. The potential revenue of FTT has been estimated to be significant, at up to $125 billion annually worldwide (United Nations, 2012). In the United States alone, FTT could generate cumulative revenues of $200 billion over the period 2017-2021 (Congressional Budget Office, 2016). In addition to generating government revenue, FTT can to some extent potentially discourage speculative financial trading given the higher transaction costs involved. Often perceived as a progressive tax, FTT could also reduce income inequality as its burden is disproportionally borne by institutional investors and wealthier individuals.[a]

A well-designed FTT scheme should levy low tax rates on a wide range of financial assets (Bivens and Blair, 2016). A broader base would reduce the opportunity for investors to transition from taxed instruments to untaxed ones. A broader base also allows for lower tax rates for each financial asset, which should lead to less tax evasion and avoidance. The tax rates can be set according to the characteristics of financial assets. For example, transactions involving derivatives could be taxed at a much lower rate than those concerning equities because derivatives have expiration dates; thus, they require more frequent trading than equities (Barclay, 2010). Alternatively, the FTT rates can be set as a proportion of existing transaction costs, such as brokerage fees.

Several Asia-Pacific economies have already adopted some form of FTTs, although coverage could be broadened. The most common instrument is a tax or stamp duty on transfers of shares of listed companies, which range between 0.1 per cent in such countries as China, Indonesia and Thailand, to 0.5 per cent in the Philippines.[b] However, among the countries that have adopted a tax on equity transactions, trading of other financial assets, such as bonds, derivatives and foreign currencies, is often not subject to FTT. In this regard, additional tax revenues could be generated from introducing FTT where it is currently not in place and from expanding its scope in countries that already have certain forms of FTT.

While considering the introduction of FTTs, countries should be mindful of some implementation issues. First, studies on how investors have reacted to FTT show that they have yielded mixed results. In China, Yongyang and Zheng (2010) showed that a 22-basis-point increase in the securities transaction tax rate was associated with a 28 per cent decrease in trading volume. Nonetheless, in India the value of shares traded continued to rise steadily in the three years after the introduction of a securities transaction tax in 2004 (Malik, 2014). Second, FTT could reduce tax revenues from other tax instruments, such as revenues collected from personal income and capital gains taxes. Third, FTT could push up public borrowing costs, given the higher transaction costs of bond trading. Finally, enforcing FTTs is increasingly difficult amid the widespread use of multi-country electronic trading platforms.

Despite its potential to generate tax revenues and address income inequality, FTT may not be a viable policy option in countries with small or underdeveloped financial markets. In such countries as Bangladesh, Pakistan and Papua New Guinea, the value of stocks traded is still below 1 per cent of GDP, so the revenue that could be generated tends to be small relative to the administrative and enforcement costs. More importantly, there is still a need to further promote the role of financial markets in channelling productive investments in these countries.

[a] For a literature review of FTT, see Matheson (2011).

[b] See Burman and others (2016), Deloitte (2016) and various issues of HSBC Treasury Management Profile. Available from https://globalconnections.hsbc.com/global/en/tools-data/treasury-management-profiles.

designated urban zones. These less conventional taxes have the potential to generate tax revenue and address social and environmental issues, such as income inequality and air pollution. For example, Lockley and Chambwera (2011) estimated that introducing air ticket levies in 23 developed countries could generate about $10.3 billion a year, while a similar estimate in the context of the European Union could create revenues of up to €5.4 billion a year (Krenek and Schratzenstaller, 2016).

A carbon tax is a tax that is levied on fossil fuels that emit carbon dioxide when they are burned, such as coal, oil and natural gas. As such, larger-scale carbon emitters are often power generation plants and oil refineries. The main aim of a carbon tax is to reduce greenhouse gas emissions. Pricing carbon, which can be done through a carbon tax and an emissions trading system, incentivizes producers and consumers to rethink how much energy they should produce and consume in the face of higher prices for key energy items.

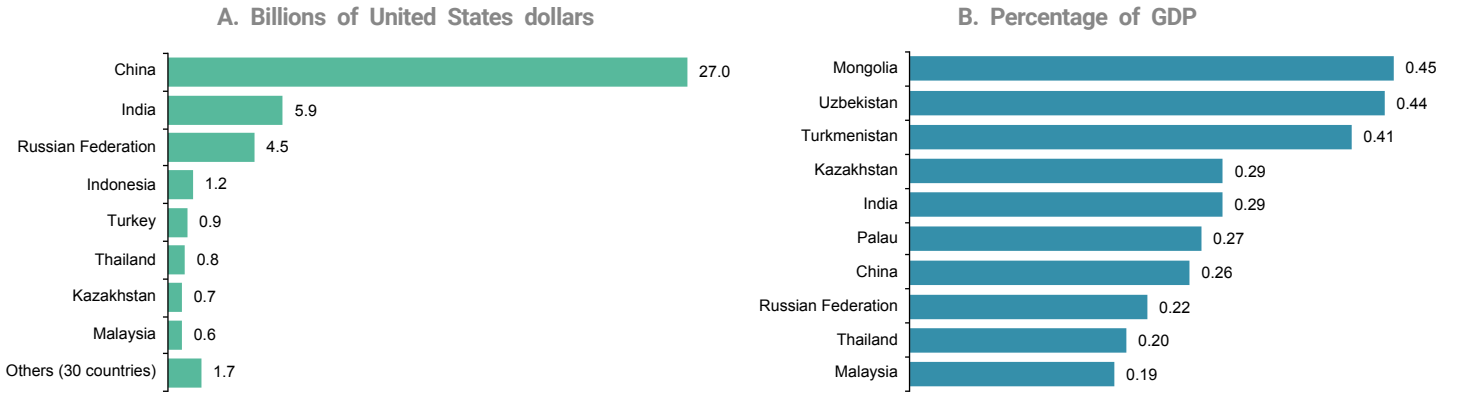
A carbon tax is relatively uncommon in the Asia-Pacific region (World Bank, 2016a). Except in parts of Japan where a carbon tax has been in place since 2012, other countries are still considering its introduction. Among others, Singapore plans to introduce a carbon tax in 2019 (Singapore, 2017). Such a tax is under study in the Republic of Korea, Thailand and Turkey. Overall, a carbon tax is less commonly used relative to the emissions trading system, which is another type of carbon pricing scheme that is in place or scheduled to be implemented in Australia, China, Japan, Kazakhstan, New Zealand and the Republic of Korea.[5]

The magnitude of public revenues that a carbon tax could generate depends on several factors. Primarily, such factors include the volume of carbon emissions in a country, the threshold on the level of emissions that would be subject to the carbon tax and the tax rate that would be introduced. Moreover, the potential revenue depends on how the relevant parties respond to the introduction of a carbon tax, such as the adoption of green technologies by energy companies that would lead to lower emission levels. Finally, a carbon tax may reduce tax revenues from other sources. For example, a carbon tax would push up energy production costs, thus reducing the profits and taxes paid by energy companies. In contrast, if much of the higher energy production cost is passed on to consumers in the form of higher retail prices for energy, this could weaken household spending and sales tax revenues.

This section contains an estimation of the size of tax revenue that a carbon tax could generate. In the first step, the potential carbon tax revenue is calculated by multiplying each country's carbon emission level by a hypothetical tax rate of $3.50 per metric ton of carbon dioxide equivalent (tCO_2e), which is the median tax rate of the carbon pricing initiatives in developing countries worldwide.[6] This assumed carbon tax rate could be viewed as moderate. Liu, Suk and Yamamoto (2014) estimated that energy-intensive businesses in such countries as China and Japan could afford a higher carbon price of $5-$12 per tCO_2e. In the second step, the impact of introducing a carbon tax on the total tax revenue is estimated at 75 per cent of the carbon tax revenue. As noted above, such a reduction (25 per cent) is assumed to capture a possible decrease in corporate profit and sales tax revenues after a carbon tax is introduced, an assumption that is also made in other studies (see Horowitz and others, 2017).

The potential revenue of a carbon tax in the Asia-Pacific region is estimated to be significant. As a whole, a carbon tax could generate about $43.3 billion in additional tax revenues per year in 38 developing Asia-Pacific economies. At $27 billion, China alone already accounts for more than 60 per cent of the total amount (panel A of Figure 2.11). On average, the estimated increase in the total tax revenue is equivalent to 0.16 per cent of GDP. This increases to 0.21 per cent of GDP in a group of countries with higher carbon intensity, such as Mongolia, Turkmenistan and Uzbekistan (panel B). These estimates under the baseline case may be considered conservative. If a hypothetical tax rate is assumed to be $15 per tCO_2e, which is the median tax rate

Figure 2.11. Potential tax revenue from introducing a carbon tax in selected economies



Source: ESCAP analysis.

of the carbon pricing initiatives in developed countries, the overall tax revenue could rise by $185.5 billion (see annex III for country-level estimates).

There are various policy considerations when evaluating the wisdom of introducing a carbon tax. One key issue is its possible impact on poverty and income distribution. Nurdianto and Resosudarmo (2016) showed that a carbon tax may push up the incidence of poverty in South-East Asian countries if its introduction is not accompanied by compensation to affected households. Moreover, a carbon tax is generally regressive (Metcalf and Weisbach, 2009), as poorer households spend disproportionally more on energy items, the prices for which may increase with a carbon tax. For example, in Singapore an official estimate would suggest that the price of electricity could rise by about 2-4 per cent when the carbon tax is introduced in 2019 (Singapore, 2017). To ease public concern, Governments could cut taxes in other areas to compensate for higher energy prices. The Government could also make the introduction of a carbon tax revenue-neutral in the short term by spending carbon tax revenue on schemes to promote the development of green technologies (Marron and Toder, 2014; Marron and Morris, 2016).

Another consideration is to examine the impact that introduction of a carbon tax may have on a country's tax structure and tax burden. In countries where other environmental taxes and regulations are already in place, a carbon tax may further complicate the tax system. Moreover, while setting a carbon tax at a high rate would send a stronger signal and potentially produce greater behavioural effects, it may place a large financial burden on private businesses and households, especially if the adjustment period is short. Finally, energy-intensive industries in countries with an environmental tax would become less competitive unless there are multilateral agreements that encourage the levy of environmental taxes in a regional or global manner (Cottrell and others, 2017).

5. Prudent sovereign borrowing from financial markets

ESCAP (2013) argued that the goal of macroeconomic policies, in particular fiscal policies, should not be focused solely on ensuring macroeconomic stability, but also on promoting sustainable development through job creation, social development and environmental protection. Hence, there is a need to rethink what is the right balance between the stabilization and the developmental roles of fiscal policies. Balancing the developmental role of fiscal policy and ensuring fiscal sustainability, however, is a contentious issue. While public debt sustainability should be

closely monitored and maintained, Governments also should ensure that meeting targeted fiscal outcomes and predetermined fiscal rules does not come at the cost of reducing spending on development objectives.

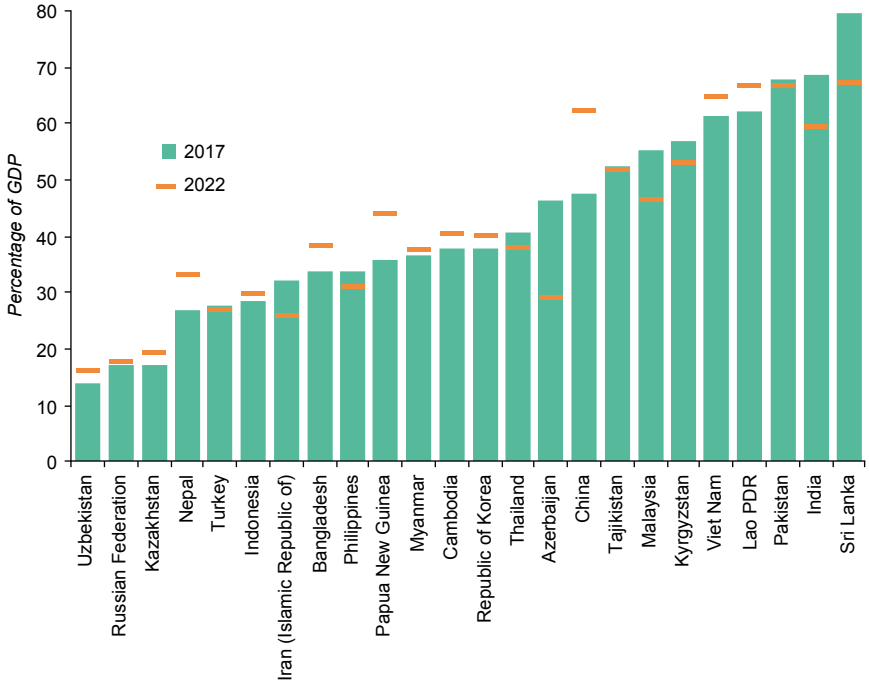
In this section, a question is studied: how could developing Asia-Pacific economies make greater use of government borrowing from financial markets in a prudent manner? There is an examination on whether the region can afford a higher public debt level to increase development expenditure. Through a regression analysis, the role that the quality of public policies has on the Government's ability to issue sovereign bonds, both in domestic and international markets, is explored.

5.1. Room for a higher level of public debt

Available data would suggest that many Asia-Pacific economies can afford a higher public debt level to increase development spending. According to IMF estimates, public debt levels in 2022 are expected to decrease from the 2017 levels in 11 of 24 developing Asia-Pacific economies (Figure 2.12). For this group of economies, the average debt level is considered moderate at 42.5 per cent of GDP in 2017 and is projected to decrease slightly to 42 per cent of GDP in 2022. Meanwhile, recent public debt sustainability analysis carried out by IMF and the World Bank also indicate that the risk of public debt distress is generally low, with 22 of 41 economies in the region being viewed as having a low level of risk. In those economies, public debt levels are projected to remain sustainable under a standard set of adverse macroeconomic shocks, such as slower output growth, higher interest rates and weaker exchange rates.

While public debt sustainability is not an immediate concern for most Asia-Pacific economies, there are other factors that warrant close surveillance. In principle, changes in the public debt-to-GDP ratio over time is driven mainly by changes in a primary fiscal balance (government revenue and grants after deducting non-interest expenditures) and the differences between real GDP growth and real interest rates. Examples of other factors that could influence the public debt level are contingent liabilities and receipts from the privatization of

Figure 2.12. Public debt levels in 2017 and 2022

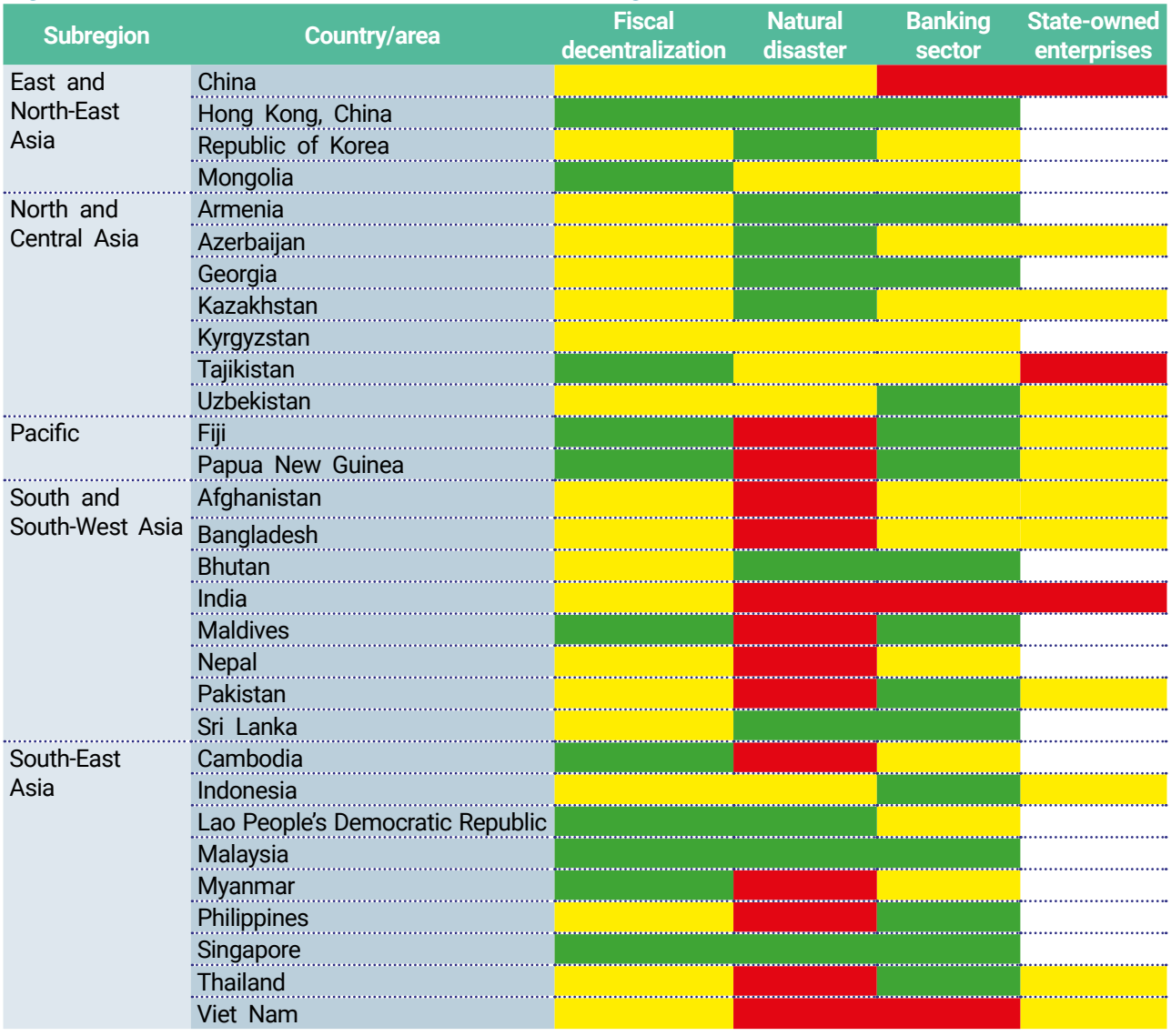


Source: ESCAP, based on IMF Fiscal Monitor database (October 2017 edition).

State-owned enterprises. Contingent liabilities can be explicit, such as bank deposit insurance and State guarantees on private investment, or implicit, such as the default of subnational public entities and failure of the banking sector.

Developing Asia-Pacific countries are subject to various types of fiscal contingent liabilities. Kopits, Ferrarini and Ramayandi (2016) assessed the level of risk that individual Asia-Pacific countries face as a result of contingent liabilities in four areas: a banking sector crisis; subnational government debt; operation of State-owned enterprises; and natural disasters. Their study showed that Pacific small island developing States and several economies in South and South-West Asia and South-East Asia are highly prone to natural disasters (Figure 2.13). Such catastrophes have led to significant output losses and triggered the need for large post-disaster fiscal support. Meanwhile, the fiscal cost of capital injection to bail out troubled State-owned enterprises, if materialized, could be high in China, India and Tajikistan. Moody's (2017) estimated that liabilities of State-owned enterprises

Figure 2.13. Fiscal risks due to selected contingent liabilities in selected economies



Source: ESCAP, based on George Kopits, Benno Ferrarini and Arief Ramayandi, Exploring risk-adjusted fiscal sustainability: Analysis for Asian economies. ADB Economics Working Paper Series No. 483 (Manila, 2016).

Note: Cells highlighted in green indicate a low risk; those in yellow, a medium risk; and red, a high risk. Cells highlighted in white indicate that no information is available.

in China stood at 114 per cent of GDP at the end of 2015, and that such enterprises' liabilities, worth about 20-25 per cent of GDP, may require restructuring over time. In another study, Ferrarini and Hinojales (2018) noted that the Government of China may have to spend up to 5.5 per cent of GDP by 2021 for bailouts in case there are defaults on the debts of some State-owned enterprises. Finally, contingent liabilities relating to banking sector turmoil are also estimated to be significant in China, India and Viet Nam.[7] Arslanalp and Liao (2013) showed that bank-related contingent liabilities in China and India could be worth about 3.9 per cent and 1.9 per cent of GDP respectively.

In addition to the issue of contingent liabilities, another caveat is that public debt sustainability could be a concern for several less developed economies in the region. IMF/World Bank public debt sustainability analysis suggested that 8 of 41 Asia-Pacific economies are considered as having a high risk of public debt distress (Table 2.1). Most are least developed countries, such as Afghanistan and the Lao People's Democratic Republic, and small island developing States, such as Maldives and Samoa. Moreover, in an analysis that assumes adverse shocks to the economic growth-interest rate differential, ESCAP (2017b) showed that many of the economies listed in Table 2.1 would experience an increase in the public debt-to-GDP ratio as opposed to lower debt projected in the baseline scenario. These economies are Armenia, Kyrgyzstan, the Lao People's Democratic Republic, Maldives and Viet Nam.

5.2. Increasing the role of public bond financing

There are various methods that a Government could use to finance fiscal deficits. One option is through official development assistance. The second approach involves "printing money"; under that approach the central bank would hold part of newly issued government debt through creation of additional currency. The third approach, which is the focus of this section, involves open-market borrowing, in which government debt instruments, such as sovereign bonds, are voluntarily held by financial institutions and the public in exchange for the interest that the debt instruments pay. These methods have different advantages and disadvantages, which also depend on a country's specific conditions. For instance, in a small economy, large-scale open-market borrowing may push up the economy's interest rates and crowd out part of private investments. On the other hand, while such a crowding-out effect would be less strong in the case of the method involving the printing of money, creation of additional currency to finance the fiscal deficit could have serious inflationary and exchange rate implications. Disincentives to undertaking fiscal reforms when money can just

Table 2.1. Countries with moderate and high risks of public debt distress

Moderate risk	High risk
Armenia	Afghanistan
Azerbaijan	Kiribati
Bhutan	Maldives
Kyrgyzstan	Marshall Islands
Mongolia	Lao People's Democratic Republic
Pakistan	Samoa
Solomon Islands	Sri Lanka
Timor-Leste	Tuvalu
Tonga	
Vanuatu	
Viet Nam	

Source: ESCAP, compiled from 41 issues of IMF Article IV reports on developing Asia-Pacific economies that have been released since 2016.

be printed can be substantial and should not be underestimated.

Issuance of public bonds is not very common in developing Asia-Pacific economies. Of 47 countries with available data during the period 1995-2016, 20 countries have never issued any government bonds, 11 countries have issued public domestic bonds only and 16 countries have issued both public domestic and foreign bonds. Most countries that have never issued a public bond are either a least developed country or a small island developing State (Table 2.2).

Even among the countries that have previously issued public bonds, the quantity of bond issuances was generally modest. The average annual amount of domestic public bond issuance across 24 developing Asia-Pacific economies stood at about 2.6 per cent of GDP during the period 1995-2016. For foreign bonds, the figure was even lower at 0.6 per cent of GDP. China and India are the top issuers of public domestic bonds in term of number, which stood at close to 60 bonds a year (Figure 2.14). In terms of value, top issuers are Sri Lanka and Turkey where public domestic bond issuances were equivalent on average to 9-10 per cent of their respective GDP per year. Both the number and value of public foreign bond issuances are typically lower.

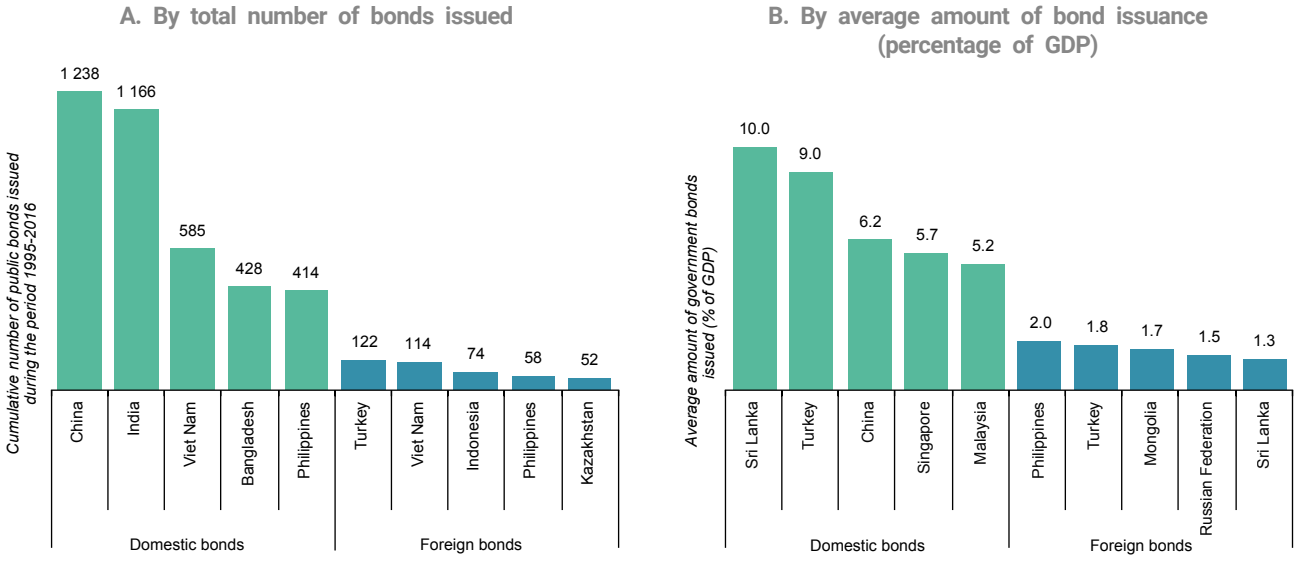
A wide range of factors could determine a Government's ability to issue bonds. One such factor is the Government's sovereign credit risk rating, which is influenced by, among other things, the Government's revenue collection capacity, past economic growth record, macroeconomic stability, external account vulnerability and the quality of the Government's institutional framework. Figure 2.15 shows that about half of the developing economies in the region exhibit a sovereign credit rating that is rated as non-investment grade or worse. In addition to the sovereign credit risk rating, another factor is the development level of domestic capital markets. Large and liquid capital markets help channel domestic savings into purchases of government bonds.

Table 2.2. Record of public bond issuance in Asia-Pacific economies, 1995-2016

No bond issuance	Domestic bonds only	Both domestic and foreign bonds
Afghanistan	Bangladesh	Armenia
Bhutan	Fiji	Azerbaijan
Brunei Darussalam	Hong Kong, China	China
Cambodia	India	Georgia
Democratic People's Republic of Korea	Kyrgyzstan	Indonesia
Iran (Islamic Republic of)	Lao People's Democratic Republic	Kazakhstan
Kiribati	Myanmar	Malaysia
Macau, China	Nepal	Mongolia
Maldives	Singapore	Pakistan
Marshall Islands	Uzbekistan	Philippines
Micronesia (Federated States of)	Vanuatu	Republic of Korea
Palau		Russian Federation
Papua New Guinea		Sri Lanka
Samoa		Thailand
Solomon Islands		Turkey
Tajikistan		Viet Nam
Timor-Leste		
Tonga		
Turkmenistan		
Tuvalu		

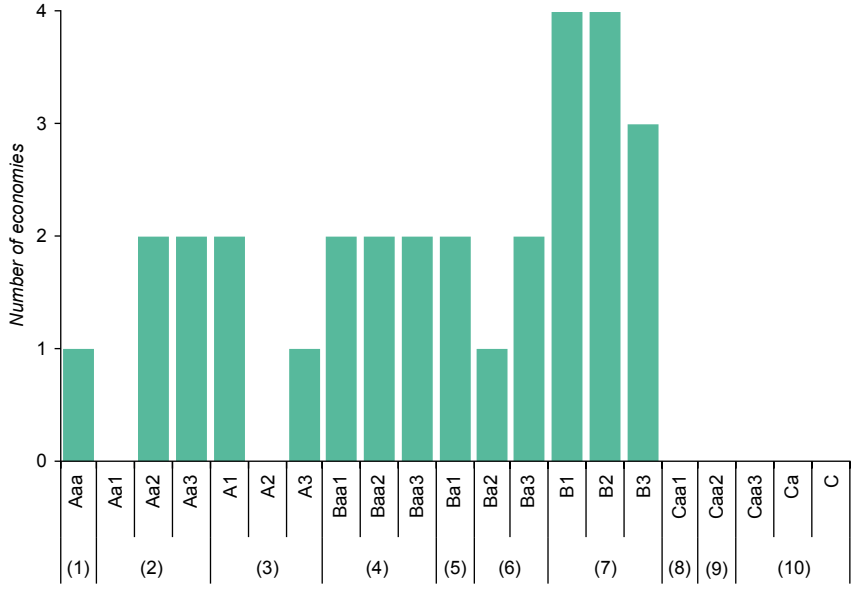
Source: ESCAP, based on Bloomberg database. Available from https://www.bloomberg.com/professional.

Figure 2.14. Top issuers of government bonds in terms of number and amount, 1995-2016



Source: ESCAP, based on Bloomberg database.

Figure 2.15. Sovereign credit risk ratings across developing Asia-Pacific economies



Source: ESCAP, based on https://tradingeconomics.com/country-list/rating.

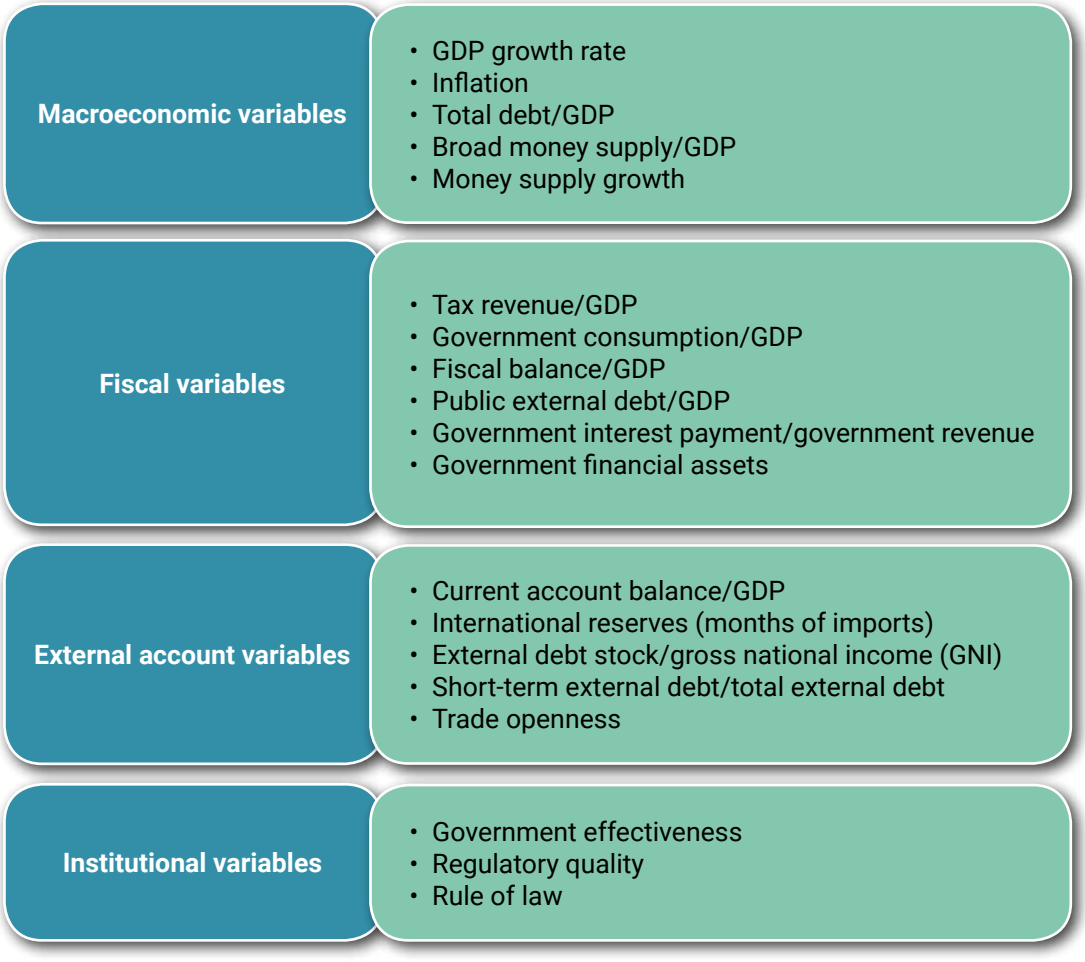
Note: The ratings are based on Moody's indicators: (1) is prime; (2) is high grade; (3) is upper-medium grade; (4) is lower-medium grade; (5) is non-investment grade; (6) is speculative; (7) is highly speculative; (8) is substantial risks; (9) is extremely speculative; and (10) is in default, with little prospect for recovery.

This section presents a regression analysis that seeks to explain why some developing Asia-Pacific economies have been able to issue government bonds both in domestic and international markets. For countries that have issued public bonds in the past, the analysis also examines the factors that determine the amount of past bond issuances. The analysis takes into account a wide range of possible explanatory factors (Figure 2.16). Technical details are provided in annex IV.

Overall, the regression results would suggest that countries that have a larger total debt stock, face a wide current account deficit and exhibit a weak regulatory framework, less open trade regime and less developed financial system[8] find it more difficult to issue public domestic bonds. Moreover, countries with wider fiscal shortfalls tend to issue more public bonds. These results are as expected and consistent with those of other studies, such as Csonto and Ivaschenko (2013); Mu, Phelps and Stotsky (2013); and Presbitero and others (2016).

The size of some of these statistical relationships is notable. For an average country, the likelihood that domestic government bonds would be issued increases by about 7 per cent when the current account balance-to-GDP ratio rises by 1 per cent. The impact of better regulatory quality is much larger. A similar likelihood could rise by about 2.1 times if the quality of government regulations improves by one standard deviation, such as from the level observed in the Philippines to that in the Republic of Korea. On the amount of issuance, a 1 per cent increase in the total

Figure 2.16. Possible determinants of a public bond issuance



Source: ESCAP analysis.

debt-to-GDP ratio corresponds to a 0.04 per cent decrease in the value of public domestic bonds as a share of GDP. Thus, if a country's total debt increases from 40 per cent of GDP to 50 per cent, the amount of public domestic bonds that could be issued would tend to decrease by 1 per cent of GDP. This is not small, considering that the amount of public domestic bond issuance in Asia-Pacific economies is about 2.6 per cent of GDP on average.

Similarly, the results on the issuance and value of public foreign bonds also highlight the importance of a country's indebtedness and financial market development. For an average country, if the total debt-to-GDP ratio increases by 1 per cent, the likelihood that foreign government bonds would be issued decreases by about 7 per cent. In the case of short-term debt as a share of total external debt, the impact on such a likelihood is larger at about 9 per cent.

While the results that the Government's ability to issue bonds is influenced by the public debt level are as expected, this situation highlights a wide range of policy actions that Governments may need to take. Public debt level is an outcome of fiscal management, which involves a Government's ability to collect taxes, generate non-tax revenues, manage foreign aid, deliver efficient and effective public spending programmes and make use of prudent domestic and international borrowing.

6. Leveraging private finance

Public financial resources are unlikely to be sufficient in delivering investment for sustainable development so there is a need to leverage private capital. As noted at the beginning of this chapter, the size of assets that is being managed by private firms, financial institutions and funds in the region is very large. An important policy issue is how to effectively leverage private capital rather than how to enlarge the pool of available funding.

Leveraging private finance for sustainable development is a broad concept. To start with, the private sector refers to a wide range of entities, such as business corporations, financial intermediaries, institutional investors, philanthropic organizations and households. Conceptually, in a large part of the literature discussions are on how to increase the risk-adjusted financial returns of investment projects in sustainable development so that those projects become more attractive to private investors.[9] Clearly, this is possible through reducing the level of investment risk (e.g. lower policy uncertainty and technical support for sound project design), increasing the rate of return (e.g. partial State guarantees and tax credits), or both.

Another concept that is examined in the literature is how to internalize social and environmental costs into market prices of goods and services, which would likely make profit-oriented business decisions more consistent with sustainable development.[10] An example is how to encourage corporates, through a set of incentives and regulations, to adopt more energy-efficient production technologies, the cost of which may be far higher than traditional, high-carbon technologies. Finally, an emerging concept is to use the Sustainable Development Goals to provide guidance for future private investments. Governments could identify areas where public resources are likely to flow, which may be used as a catalyst to attract private resources.

In this section, two broad areas of policy actions are discussed that could be pursued to leverage private finance for development purposes. The first policy area is to ensure an enabling policy environment that helps reduce investment risks, such as those arising from macroeconomic instability and political uncertainty. As an illustrative example, the focus here is on enhancing a policy environment that facilitates infrastructure investments under public-private partnerships (section 6.1 below). The second policy area is to enhance financial intermediation, especially through expanding the investor base and diversifying financial instruments (section 6.2 below). Box 2.2 provides a snapshot of other important policy areas that are not covered at length in this section, including blended finance, responsible business conduct, and impact investment.

Box 2.2. Examples of policy areas concerning the leveraging of private finance

In addition to ensuring an enabling policy framework for public-private partnership (PPP) infrastructure investments and developing domestic capital markets, there are several other areas of policy actions that policymakers could adopt in order to catalyse private capital. The information contained in this box provides a snapshot of three policy areas, namely blended finance, responsible business conduct and impact investment.

Blended finance typically refers to a mix between funds contributed by private investors and funds and risk management tools contributed by Governments or multilateral development banks. The aim is to de-risk investment projects, thus enhancing the feasibility of projects with a large impact in terms of social or environmental benefits, but which by themselves may be not considered commercially viable. Some of the common instruments of blended finance include guarantees, credit lines, syndicated loans and shares in collective investment vehicles. According to a survey of more than 70 bilateral and multilateral development organizations worldwide, the amount of private finance mobilized by these and other instruments during the period 2012-2015 was about $20 billion annually (Benn, Sangaré and Hos, 2017). Despite some success, Griffiths and others (2014) noted that challenges remain on how to attract more investment into small and medium-sized enterprises, which are the backbone of most developing economies, and how to ensure transparency and accountability of blended finance.

The second policy area is responsible business conduct, which seeks to better align profit-oriented business operations with sustainable development. To encourage firms to incorporate social and environmental considerations into commercial decisions, a wide range of incentives and regulations have been adopted in the Asia-Pacific region. Two examples are corporate social responsibility (CSR) in India and green labelling and certification schemes in Singapore (ESCAP, 2017c). In India, the updated Companies Act, 2013 mandates that firms with certain net worth, annual turnover or net profit to spend at least 2 per cent of their net profits on CSR activities. Among other things, such activities should be aimed at promoting poverty reduction, education, health, gender equality and environmental sustainability. As a result of this new policy, CSR funding increased by about $100 million during the period 2015-2016. Meanwhile, Singapore has adopted environmental standards and certification marks, such as the Singapore Green Labelling Scheme and Mandatory Energy Performance Standards, to increase the energy efficiency of electrical products, such as air-conditioners and refrigerators. The Government has also used these labels and standards as criteria in making public procurement of electrical products.

The third policy area is promoting impact investment. Impact investment is an investment made in private companies, non-profit organizations and funds for the purpose of promoting social or environmental development while making reasonable financial returns. While impact investments can be made in various forms and asset classes, a key distinction between impact investors and traditional investors is whether they also consider social and environmental values when making their investment decisions. In a recent survey of more than 200 impact investors worldwide (mainly fund managers and foundations), the value of impact investments stood at $22.1 billion in 2016 (GIIN, 2017). The same report showed that the total capital in India's impact investing market is about $418 million. An example of impact investment is the $20 million Women's Livelihood Bond, which is aimed at empowering women in selected South-East Asian countries (IIX, 2016). Another example is investment in social enterprises, which could take the form of for-profit ventures with a strong mission to promote social and environmental development.

Despite the great potential of impact investment, its role is still constrained by various factors. First, impact investments usually face higher transaction costs than traditional investments due to the complexity of deals and the lack of financial intermediation. Second, information on the availability and accessibility of impact investment funds is often limited. Third, if the number of experienced impact investors remains small, there is inadequate understanding of the financial and operational risks of the market.

To address these challenges, there have been several policy recommendations. Based on a survey of investors, ADB (2011) noted that some of the key enabling factors are a diverse set of impact investment tools, measurement tools on social and environmental benefits and the development of a social stock exchange. Meanwhile, to create a strategic road map for impact investment, ESCAP (2017c) emphasized the need to outline impact investment needs in alignment with national socioeconomic and environmental agenda and assess the capabilities, approaches and interactions of actors in the impact investment universe.

6.1. Enhancing the policy environment for public-private partnerships

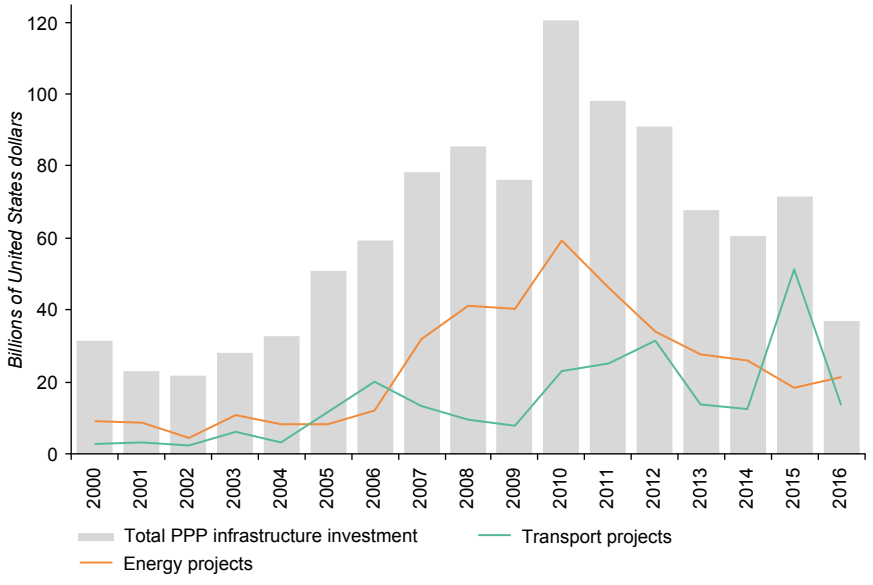
Public-private partnerships are generally defined as a contractual agreement between a public agency and a private entity on a long-term project aimed at providing a public service and infrastructure.[11] Examples of public services delivered through PPP are prison services and public parks, while infrastructure can refer to both economic infrastructure, such as electricity and mobile phone networks, and social infrastructure, such as public schools and hospitals. In general, the private entity assumes a large part of the financial and operational risks in a project, while the income could be in the form of user fees of the public service or infrastructure provided. An example is a consortium of private companies that build, operate and maintain a toll road in exchange for toll charges.

Given the situation of relatively scare fiscal resources, PPP provides an alternative approach in providing much-needed public infrastructure. PPP is particularly useful when fiscal space is small or when State capacity to deliver large-scale infrastructure projects is limited. Even when fiscal resources are available and State capacity is adequate, PPP helps shift certain risks relating to infrastructure projects to private investors. Such risks include: macroeconomic risks, such as inflation and exchange rate fluctuations; operating risks, such as higher-than-expected construction costs; and revenue risks, such as a lower-than-expected number of users and thus reduced user fees.

The discussion here is focused on PPP in infrastructure projects. Infrastructure is an investment area with the largest financing gap, and the one which often exhibits greater potential for private investor participation given its expected steady revenue stream. For example, Schmidt-Traub (2015) estimated that private financing could contribute at least half of the global required investment in energy, transport and telecommunications.

After its peak in 2010, total infrastructure investment under PPP projects in developing Asia-Pacific economies has trended downward in recent years. In 2016, the value of such PPP investment stood at $36.9 billion (Figure 2.17). The amount decreased from the annual average of $67 billion during the period 2013-2015 and the peak of $120 billion in 2010. The infrastructure sectors that have recorded larger PPP investments are transport and energy, which

Figure 2.17. Total infrastructure investment under public-private partnership projects in the Asia-Pacific region



Source: ESCAP, based on World Development Indicators database.

typically account for about three quarters of the total investment.

The value of PPP infrastructure investment varies notably across Asia-Pacific economies. In India, the total PPP investment in infrastructure projects during the period 2010-2016 was worth about $183 billion, followed by $113 billion in Turkey, $69 billion in the Russian Federation and $45 billion in China. Meanwhile, when compared with the size of an economy, PPP infrastructure investment is relatively large in such countries as Cambodia, the Lao People's Democratic Republic and Maldives.

This section contains a proposal for a new composite index that would be used to assess the extent of a country's readiness to implement PPP in infrastructure projects in selected Asia-Pacific economies. The PPP Enabling Environment Index comprises five equally weighted sub-indices: (a) institutional arrangements for PPP projects; (b) past experience with PPP; (c) macroeconomic stability; (d) financial market development; and (e) an economy-wide legal and regulatory framework. In countries with a more enabling environment, PPP infrastructure projects tend to offer higher risk-adjusted returns and are more commercially viable. The new index is available for 24 Asia-Pacific economies. Figure 2.18 depicts the components of each of the five sub-indices.

According to the PPP Enabling Environment Index, such countries as China, India, the Philippines, the Republic of Korea and Thailand exhibit a better policy environment for PPP projects than others (Figure 2.19). The results are consistent with those found in EIU (2015), which assessed the PPP policy environment in 17 economies in the region, based on actual data and expert opinions.[12]

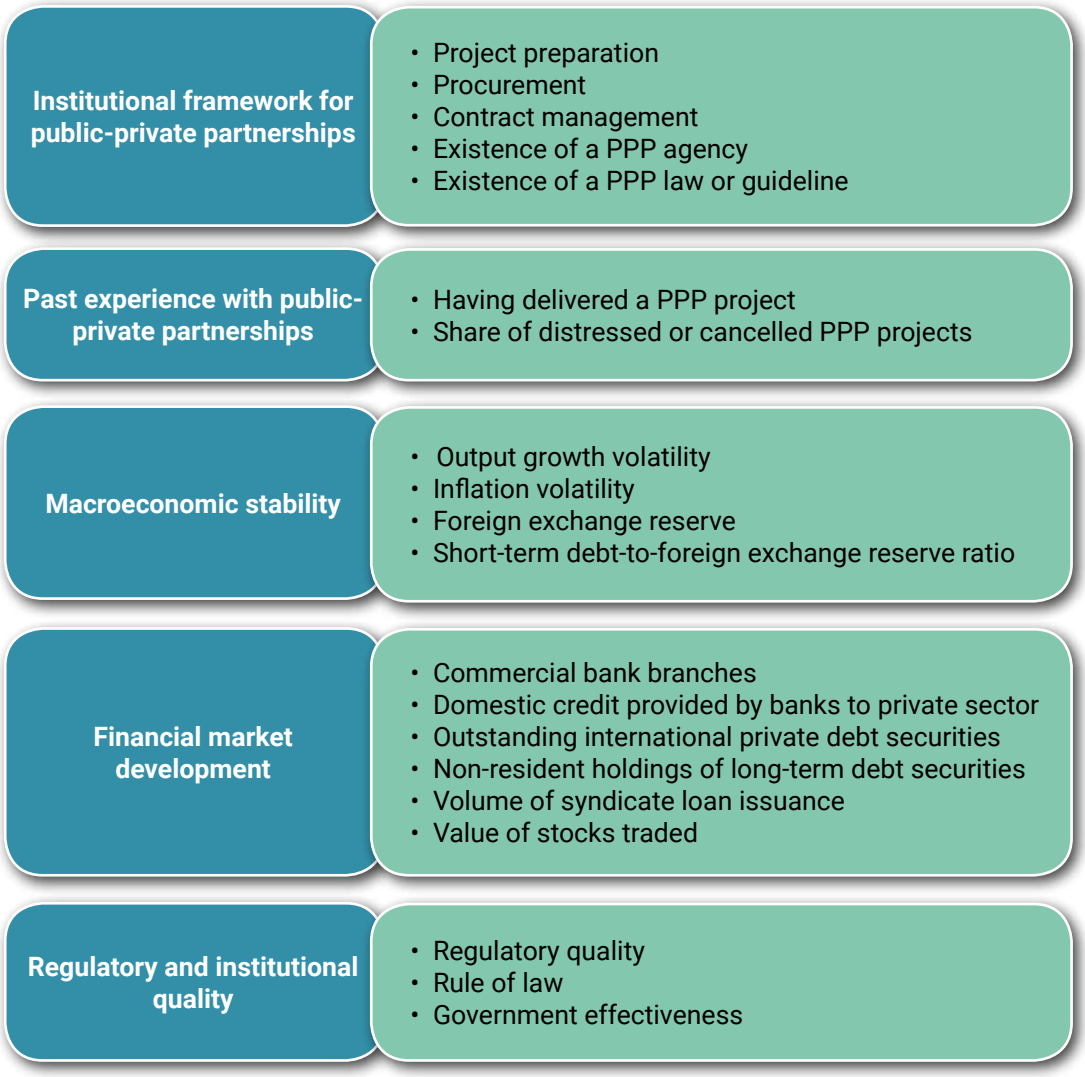
The impact of an enabling policy environment on the amount of infrastructure investment under PPP is notable. Figure 2.20 depicts the positive relationship between the value of the PPP Enabling Environment Index and the cumulative amount of PPP infrastructure investment in developing Asia-Pacific economies over the period 2010-2016. In a regression analysis that was undertaken to explain the size of PPP infrastructure investment across the region, a one-unit increase in the value of the PPP Enabling Environment Index corresponds to a 5.1 per cent increase in the amount of PPP infrastructure investment (see annex V for details). For example, if the quality of the policy environment in Bangladesh were assumed to match the level observed in Malaysia, the amount of PPP infrastructure investment in Bangladesh could rise by about 37 per cent.

The analysis that is used to examine the sub-indices of the PPP Enabling Environment Index yielded additional insights. First, among the five sub-indices, the impact of the quality of the legal and regulatory framework is the most notable. A one-unit increase in the value of the legal and regulatory sub-index is associated with an 8.6 per cent increase in the amount of PPP infrastructure investment. This is larger than the impact of 5.4 per cent for the macroeconomic stability sub-index and 4.8 per cent for the PPP institutional arrangements sub-index. Overall, the results that institutional quality and macroeconomic stability matter more to PPP infrastructure investment are expected and consistent with that of other studies.[13] Both are important factors that determine a country's sovereign risk rating, which is the variable that is strongly correlated with PPP investment (Araya, Schwartz and Andres, 2013).

Second, financial market development helps boost PPP investments, but only if it is accompanied by stable macroeconomic conditions (as captured by the interaction term of the two variables). As infrastructure projects are long-term in nature with high upfront costs, macroeconomic volatility complicates the forecast of future demand for infrastructure services and reduces project viability. Under such a situation, PPP infrastructure investment may not materialize even if financial market development is adequate.

Third, among the components of the PPP institutional arrangements sub-index, the quality of project preparation and procurement practices is particularly important. Economy-wide infrastructure planning that integrates sectoral plans and consultative project planning and selection are the key elements of good project preparation

Figure 2.18. Five components of the PPP Enabling Environment Index

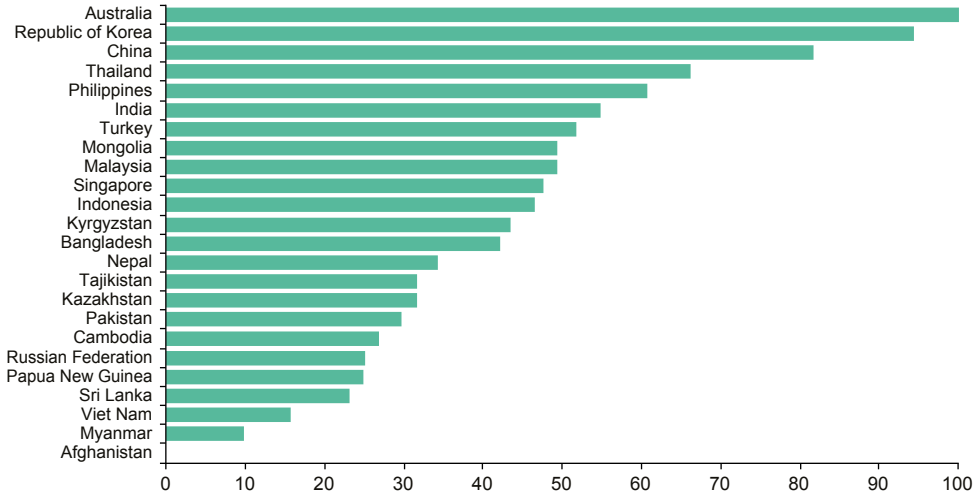


Source: ESCAP analysis.

(Global Infrastructure Hub, 2017b). Moreover, countries should prioritize infrastructure projects based on their ability to contribute to strategic goals, economic viability and project readiness. Meanwhile, with regard to public procurement, a procurement practice that is transparent and fair, encourages competition and incentivizes innovation is more likely to select a project that offers better value for money.

Despite significant potential benefits, infrastructure investments through PPP exhibit some risks; thus, careful project implementation is required. The first risk is increased fiscal contingent liabilities, as Governments may need to take over PPP projects that fail to be delivered by bid winners. To reduce such risk, World Bank (2010) pointed out several good practices based on past country experiences. Some examples are conducting a cost-benefit analysis for project selection, quantifying the size of fiscal contingent liabilities, publishing details of PPP contracts and having in place a budgetary system and financial reporting standards that accurately reflect fiscal obligations. The second risk is that PPP projects may reduce medium-term fiscal flexibility given public financial commitments in the years after infrastructure projects are completed. Finally, PPP may potentially lead to high user charges for infrastructure services.

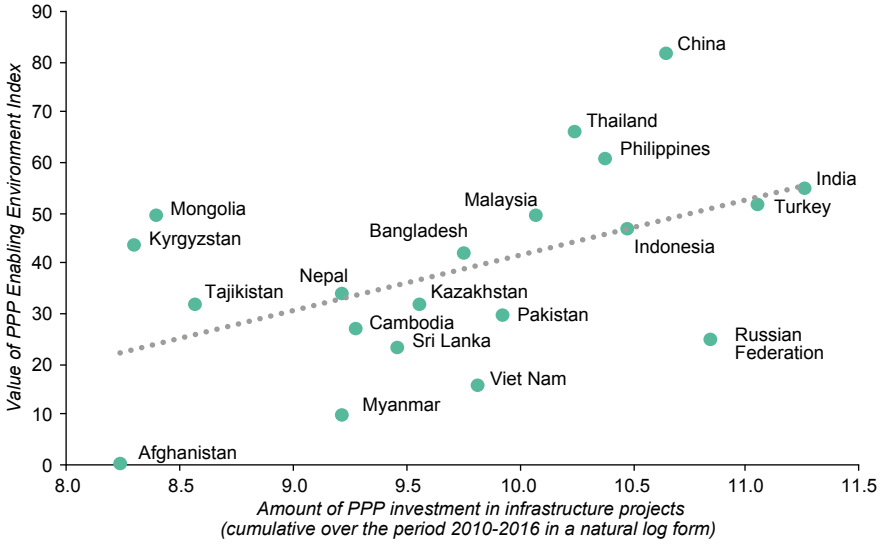
Figure 2.19. The PPP Enabling Environment Index across Asia-Pacific economies



Source: ESCAP analysis.

Note: A higher score value means more enabling environment.

Figure 2.20. Scatter plot: PPP Enabling Environment Index and public-private partnership infrastructure investment



Source: ESCAP analysis and World Development Indicators database.

6.2. Deepening financial intermediation

Discussions in different sections of this chapter have highlighted the importance of financial sector development in channelling available savings into investments in sustainable development. In particular, well-functioning domestic capital markets help support the role of sovereign bond financing and the policy environment for PPP infrastructure investment. Capital market development also helps support sustainable development through other less conventional instruments, such as green bonds and diaspora bonds.[14] More broadly, relatively well-developed local-currency capital markets reduce a country's reliance on foreign borrowing, thus reducing its current account imbalances and mitigating the risks arising from volatile capital flows and currency mismatches (IMF and World Bank, 2016). The need to have large precautionary reserve holdings is also less strong.

Except in a few economies, such as Hong Kong, China; and Singapore, which serve as some of the world's leading financial centres, capital markets in Asia and the Pacific remain relatively small, with low levels of market liquidity. Overreliance on bank lending in the region has constrained financing for long-term investment, such as infrastructure projects, because bank loans are typically short term and collateral-based in nature. A bank-dominant financial sector is constrained by more stringent banking regulations, which have led banks to become more selective in their allocation of capital to infrastructure lending. More broadly, reliance on bank financing also makes economy-wide macroeconomic stability more vulnerable to the health of the banking sector.

Developing domestic capital markets is a long-term task that requires policy actions on various fronts. For example, a policy effort on developing corporate bond markets involves having in place: (a) an effective legal framework for the issuance process, such as frameworks for different types of issuers and investor protection; (b) a sizeable investor base; (c) a diverse set of products; (d) knowledgeable financial intermediaries, such as business analysis capacity of investment banks and securities firms; and (e) an enabling market infrastructure, such as credit rating agencies and bond pricing agencies. In addition, broader issues include the effectiveness of corporate governance, harmonization and enforcement of international standards and relatively well-developed sovereign bond markets that provide yield curve benchmarks for corporate bond markets.

Given the broad nature of the topic, this section is focused on two areas, namely widening the investor base by increasing the role of institutional investors and diversifying financial instruments by exploring the potential of Islamic finance.

Widening the investor base: the role of institutional investors

Large assets under management by institutional investors are not being channelled into development finance. Institutional investors typically refer to a group of pension funds, mutual funds, sovereign wealth funds and insurance companies. As shown previously in this chapter, assets under management by institutional investors in developing Asia-Pacific economies are large, at a value of $14.2 trillion in 2016. The combination of the large amount of assets and the fact that liabilities of many institutional investors are long term in nature, which is consistent with investment in sustainable development, would suggest that institutional investors have immense potential to contribute to development finance. Yet, globally the contribution of institutional investors to sustainable development appears to be limited. Institutional investors accounted for only 1 per cent of investment in 163 PPP infrastructure projects in low- and middle-income countries in 2015 (World Bank, 2016b). A large part of such financing still came from traditional bank loans. Meanwhile, in addition to their potential contribution to sustainable development, data show that domestic capital markets are more developed in Asia-Pacific countries with a larger institutional investor base than a smaller base (OECD, 2014b).

Studies have suggested several reasons why engagement by institutional investors in development finance, especially in infrastructure projects, remains limited. First, while liabilities of institutional investors are long term, the incentive system still incentivizes fund managers to take a short-term view of investments. About two thirds of pension funds review the performance of fund managers on a quarterly basis, although 60 per cent of them agree that the key investment period is longer than a year (Aviva, 2014). Second, some regulations that govern the fund management industry remain restrictive. For example, Biswas (2016) noted that institutional investors in many Asia-Pacific economies are not permitted by law to invest directly in real estate or infrastructure. Third, many domestic institutional investors lack the required expertise to assess and manage infrastructure project risks. Fourth, political risks are usually high, as returns on infrastructure investment are greatly influenced by sudden changes in government policies and regulations (Genberg, 2016). Finally, Della Croce and Yermo (2013) highlighted the limited availability of financing vehicles and debt instruments, such as infrastructure funds and bonds, as well as the lack of high-quality infrastructure data and

clear benchmarks, a situation which makes it more difficult to assess the levels of risk.

Governments could pursue a wide range of policy options to increase the contribution of institutional investors to sustainable development. ESCAP (2017d), among others, emphasized the importance of: (a) facilitating foreign investment, through relaxing certain capital controls and increasing the availability of hedging instruments; (b) promoting financial integration through harmonizing standards and regulations, which helps to reduce cross-border transaction costs; (c) strengthening the role of local credit rating agencies, which could potentially provide more in-depth information relative to international rating agencies; (d) incorporating the concept of shared social and environmental values into the design of infrastructure projects, which would make them more appealing to impact-oriented institutional investors; and (e) reviewing tax policies, including offering favourable tax treatment for infrastructure-linked investment.

To realize the benefits that these options entail, Governments need to carefully implement policy options aimed at unlocking the potential of institutional investors. For example, while relaxing regulations that restrict institutional investors from investing directly in infrastructure would enable portfolio diversification and create stable long-term yields, their impact on portfolio risk should be reviewed. Similarly, more liberalized capital controls could lead to greater financial instability (Genberg, 2015), while closer financial integration may push up currency risks.

Diversifying financial instruments: the role of Islamic finance

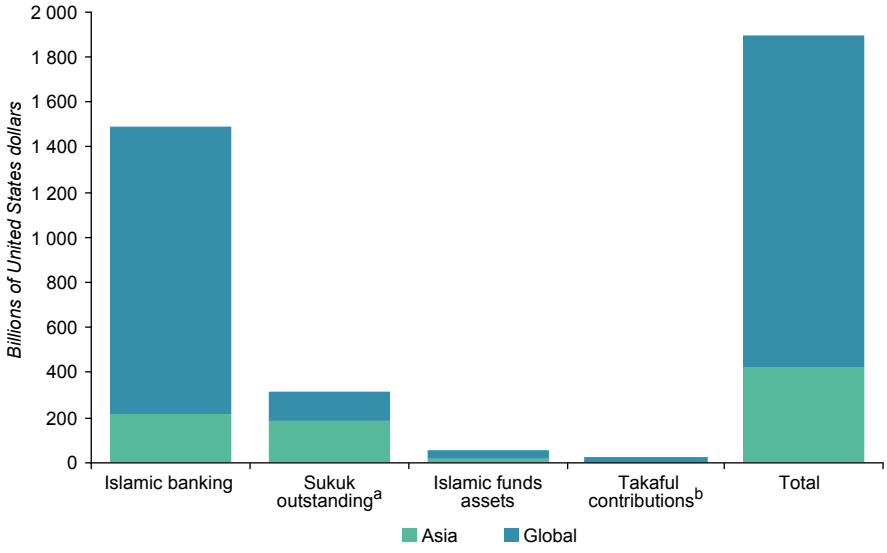
The principles of Islamic finance are consistent with sustainable development concepts. Islamic finance refers to financial services that are compliant with Sharia Islamic law and principles. Some of the key features that distinguish Islamic finance from conventional finance are its emphasis on an asset-based (as opposed to debt-based) approach, prohibition of financial transactions in speculative activities and linkages to the real economy, such as production and trade sectors. Moreover, Islamic finance promotes risk-sharing by forbidding the sale of debt, thus requiring lenders to share the risk of default. These principles make Islamic finance suitable for long-term investment in real sectors, such as infrastructure. More broadly, some of the key aims of Islamic finance, including promoting financial inclusion and shared prosperity, are also in line with the concept of sustainable development.

The Islamic finance industry is sizeable. The total worth of global Islamic financial services stood at about $1.9 trillion in 2016 (Figure 2.21). Almost 80 per cent of this amount is in the form of Islamic banking assets. Although the share of the total worth held by financial institutions based in the Asia-Pacific region is not very high at 22 per cent, the size remains substantial at $425 billion. The region has an important role in sukuk (Islamic equivalent of bonds), as it accounts for close to 60 per cent of the world's outstanding value of this instrument, mainly attributable to the active market in Malaysia. In addition to Malaysia, there are also some established Islamic finance markets in Bangladesh, Brunei Darussalam, Indonesia and Pakistan, and a growing interest from non-Muslim economies, such as Japan; Hong Kong, China; and the Republic of Korea.

Governments in the region are making efforts to boost infrastructure investments through greater use of Islamic finance. In Malaysia where funds raised from sukuk have been used to finance infrastructure projects involving airports, seaports and roads, favourable tax treatment is given to Islamic financial products. In Pakistan, the Government accorded tax neutrality for sukuk issuance, while Islamic banking institutions are allowed to opt out from benchmarking certain products against interest-based benchmarks. In Australia, tax laws are reviewed to ensure parity between Islamic and conventional financial products, while tax guidance on Islamic financing is published in Hong Kong, China. At the multilateral level, a plan to set up an Islamic infrastructure bank has been put forward by Indonesia, Turkey and the Islamic Development Bank.

There are a number of policy actions that could be taken to further increase the role of Islamic

Figure 2.21. Total worth of Islamic financial service industry in 2016



Source: ESCAP, based on Islamic Financial Services Board, *Islamic Financial Services Industry Stability Report*. Available from https://www.ifsb.org/docs/IFSB%20IFSI%20Stability%20Report%202017.pdf.

[a] The equivalent of an Islamic bond.
[b] The Islamic alternative to conventional insurance.

finance. First, a tax and regulatory framework could be made more conducive to Islamic finance. In many cases, while interest payments from conventional financial instruments are tax deductible, returns from profit-sharing sukuk are taxable. Second, a further standardization of guidelines for structuring Islamic financial products would help these products become more appealing to a larger pool of investors. Third, deeper domestic capital markets would facilitate secondary trading and the liquidity of Islamic financial products and provide a benchmark for their pricing in the long term. Available data show that only a fifth of all sukuk issued globally in 2014 have a maturity period of at least 10 years compared with a term of up to 20 years for many conventional infrastructure bonds in the region. Fourth, more capable Islamic financial institutions and an enabling legislative framework are needed to carry out the complex structuring of infrastructure projects. For example, the transfer of assets into special purpose vehicles is required in some cases, which may create a risk that the Government will lose control of the asset in case of a default. Finally, shortages of Islamic financial experts have led to notable discrepancies in practices involving Islamic financial transactions, thus undermining investor confidence in the industry.

7. Concluding remarks

This chapter contains an exploration of how Governments in developing Asia-Pacific countries could mobilize financing to support sustained, inclusive and sustainable economic growth. The two focus areas are increasing domestic public financial resources and leveraging private capital to support sustainable development. Through a number of quantitative analyses and policy discussions, several useful insights have been offered for the benefit of policymakers, some of which are presented here.

First, as various quantitative exercises carried out in this chapter demonstrated, the prospects for mobilizing financing for development purposes are promising. The potential revenue impact of better tax administration and a policy effort to expand the tax base, particularly through rationalizing FDI tax incentives and introducing carbon taxes, is estimated to be significant. Similarly, the role that government effectiveness

and macroeconomic fundamentals could play in increasing the fiscal space through public bond financing is also notable. Finally, there is strong evidence that a better policy environment for PPP projects is associated with larger PPP infrastructure investment in a country.

Second, as countries are implementing national plans to achieve sustainable development, there is also a need for national strategies on mobilizing development finance. As highlighted in this chapter, one of the critical components of such financing strategies is to ensure an effective legal and regulatory framework. Such a framework would bring about efficiency gains in tax administration, facilitate the role of sovereign bond financing and attract infrastructure investments under PPP. Moreover, Governments should be mindful that these elements of development finance are linked. Better tax revenue collection and greater use of sovereign bond financing would help support public debt sustainability, which is essential for building the confidence of the private sector in co-financing infrastructure projects.

Third, despite promising prospects on mobilizing development finance, realizing such opportunities requires bold yet careful policy efforts. Several caveats and implementation issues have been emphasized in this chapter for some of the policy actions discussed. For example, there is a need to: (a) carefully restructure government agencies in order to strengthen tax administration; (b) be aware of the impacts that a carbon tax, if introduced, could have on the incidence of poverty, income distribution and tax burden borne by private businesses and households; and (c) deal with heightened fiscal contingent liability relating to PPP projects. Meanwhile, regional cooperation is required to achieve some of the policy actions discussed in this chapter, such as a coordinated multilateral effort to rationalize FDI tax incentives and introduce carbon taxes.

Fourth and finally, while noting that selected policy areas discussed in this chapter are presented as illustrative case studies rather than as policy prescriptions, it should also be noted that not all Asia-Pacific countries would be able to implement these policy options, even if they are willing to so. While improving tax administration seems feasible for most countries, increasing the role of sovereign bond financing and attracting more PPP infrastructure investment require well-functioning capital markets and strong technical skills of government agencies. For less developed countries, the role of external sources of finance, such as official development assistance, South-South cooperation, and global development partnerships, which are not the focus areas of this chapter, remains critical.

ENDNOTES

1 Among other factors, estimates on infrastructure investment gaps are not comparable due to different definitions of infrastructure, country coverage, time period, methodologies used to calculate the baseline investment and targets, and whether climate mitigation and adaptation costs are taken into account.

2 See OECD (2014a) for a broad discussion of various channels that developing countries may adopt to mobilize development finance.

3 In addition to these factors, the actual tax levels are also closely linked to variables, such as governance, inequality and tax morale. To a large extent, the tax revenue level reflects a country's economic structure and public perception on the quality of Governments (Bird, 2012).

4 Since the Tax Administration Index is based on survey-based information, the index reflects the institutional setting that is in place rather than actual performance indicators of tax authorities. For example, while the presence of a large taxpayer unit is considered desirable, the Tax Administration Index does not capture the quality of such a unit in sample countries.

5 Under the emission trading system, the Government sets a limit on a company's carbon dioxide emission level. If a company's emission is below its cap, it may sell its unused carbon dioxide emission allocations on the market. On the other hand, companies that emit more than the limits can buy emission allocations.

6 The carbon tax rate assumed is the median value of the rates introduced in China, Colombia, Estonia, Latvia, Mexico, Poland, Slovenia and Ukraine.

7 In the context of emerging economies, IMF (2013) noted that an analysis on contingent liabilities relating to the banking crisis may be warranted when cumulative change in the private sector credit-to-GDP ratio over the latest three years is above 15 per cent, and the loan-to-deposit ratio exceeds 1.5. This is the case for China and Viet Nam. In India, a high level of non-performing loans also makes the banking sector more vulnerable to adverse shocks.

8 Here, the broad money-to-GDP ratio is used as a rough proxy for financial development given its wide availability. While the ratio tends to reflect the breadth of financial markets, it may not be an ideal proxy for domestic capital market level, which could be better measured by liquidity and the volume of bond trading. However, the availability of such bond trading data, especially in a panel data setting, is limited.

9 See, for example, UNTT (2013) and Yoshino, Nakahigashi and Pontines (2017).

10 See, for example, Schmidt-Traub and Sachs (2015).

11 See World Bank (2017c) for a comprehensive report on PPP, including its definitions, sources of financing, enabling policy environment and project cycle. Dintilhac, Ruiz-Nuñez and Wei (2015) provided a literature review on the economic impacts of PPP.

12 For 15 Asia-Pacific economies that are covered in this chapter's analysis and EIU (2015), the simple correlation coefficient is high at 0.86.

13 See, for example, Hammami, Ruhashyankiko and Yehouel (2006), Sharma (2012), Mengistu (2013), Kasri and Wibowo (2015) and Moszoro and others (2015).

14 See ESCAP (2017d) for a discussion on possible policy actions to increase the role of environmental-related bonds in the Asia-Pacific region.