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TAX POLICY FOR SUSTAINABLE DEVELOPMENT IN ASIA AND THE PACIFIC

Tax policy for sustainable development in Asia and the Pacific

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Foreword



The need for optimal tax policy to mobilize the desired level of resources and promote tax policy frameworks that can respond to the inclusive, sustainable and multidimensional requirements of the 2030 Agenda for Sustainable Development at both national and subnational levels, has never been more pressing. Over and above existing financing flows, the Sustainable Development Goals call for additional funds for incremental public spending of anywhere from 2.0 to 5.8 per cent of gross domestic product (GDP) each year in low-income and lower-middle income countries worldwide. The resource requirements to achieve universal access to basic infrastructure in the least developed countries is much steeper at nearly 10.7 per cent of their annual GDP. More than a third of the countries in the Southeast Asia and South Asia subregions collect taxes that amount to 10 per cent or less of GDP and the average tax rate across Asia and the Pacific is consistently below the average tax rate in developing countries worldwide. In Asia and the Pacific, decentralized tiers of government have also fallen behind in exploiting local taxes. Inadequate public revenues and distortions in tax regimes are obstacles to sustainable development.

Inspired and guided by the Addis Ababa Action Agenda adopted in 2015, this book responds to and examines tax issues and challenges in the Asia-Pacific region across both federal and municipal governments. It recognizes emerging opportunities, which if effectively exploited hold promise for better financing of the 2030 Agenda. Acknowledging that there are no one-size-fits-all solutions in tax matters, this book provides propositions on how the demands of the 2030 Agenda could be met through tax policy reform.

First, urban sustainable development has enormous requirements and requires a more decentralized approach to obtain additional resources to finance the Sustainable Development Goals. Between 2000 and 2025, an estimated 1.1 billion people in the region will move into cities, more than the combined total population of Europe and North America. Rapid growth in metropolitan areas and their growing share in national outputs has increased their potential tax take. Yet most cities in the region suffer from vertical fiscal imbalances and cannot mobilize sufficient revenues locally. An economic development strategy for urban areas must be tailored to the specificities of different metropolitan areas, consider ways of increasing the powers of local governments to raise taxes, and study the feasibility of creating a special regime for metropolitan area finances. This could be

supported by developing fiscal strategies which provide a special governance and financing regime for metropolitan areas. Higher marginal tax rates, commensurate with the cost of providing services, could be encouraged in large urban areas. Given revenue potential of large cities, implementing a diversified and broader metropolitan tax and setting an effective property tax rate would reduce municipalities' excessive exposure to deficits and their dependency on national transfers.

Second, there is need for coordinating and mainstreaming economic, social and environmental considerations in tax policies which should contribute to addressing income and wealth disparities. Experience in member countries of the Organisation for Economic Co-operation and Development and more recently in Latin America demonstrates progressive direct taxes can help mitigate economic inequality and ensure intergenerational equality of opportunity. Due to the legacy of indirect taxes for quick revenue mobilization and the capacity constraint for effective design, most developing countries have yet to deploy progressive direct taxes such as personal income tax, property tax and wealth tax as policy tools for dealing with pervasive inequalities. Widening wealth disparities have led national development strategies to increasingly emphasize shared prosperity. Adjustments in tax policy are required to ensure high incomes and wealth are taxed effectively to redistribute revenues for the social uplift of the population.

Third, ongoing environmental degradation due to unsustainable development in Asia and the Pacific needs to be arrested by, among others, introduction of broad-based green taxes and emission charges to internalize the true costs of pollutive activities and the use of natural resources in business decision-making and create the correct incentives. In recent years, Asia-Pacific developing countries have become interested in environmental tax reform. Reforms in this area should now be taken forward. Low oil prices provide the opportunity for fuel subsidy and transport fuel tax reforms. Intelligently combined with the industrial upgrading agenda of newly industrialized countries, such reforms could help achieve this objective and contribute to an environmentally sustainable economy.

Finally, developing countries may streamline and rationalize tax incentives to expand and protect the tax base, since substantial revenue is lost through ill-conceived tax policy practices adopted to promote investments. Tax breaks and incentives, which are prevalent in the region, have been found to result in wasteful tax expenditures that result in tax evasion and profit shifting, while being ineffective in promoting investment. Excessive tax incentives should be reduced, but there is also a case for scrutiny and redesign of tax incentive regimes to better align incentives that do indeed promote businesses and tightening transparency

and administration to prevent tax evasion and misuse of incentives. Where there are large informal sectors, tax incentives could be employed as a tax base protection tool to encourage businesses to stay in the formal sector and pay tax. For instance, encouraging public listings and ensuring profits reported to shareholders match those declared to tax authorities could reduce underreporting of taxable income. The size of the shadow economy was larger than that of tax revenue among many sample economies, thus the potential benefit of reducing the level of tax evasion is huge among countries with a large informal sector.

To conclude, this book analyses and tackles a range of weaknesses of taxation systems and offers guidance and thought-provoking propositions on how to restructure fiscal and tax policy to promote sustainable development. It offers perspectives on how to strengthen metropolitan fiscal governance and proposes options and an inventory of municipal government revenue tools. Furthermore, the book investigates how tax policy can be redesigned to address wealth and income inequalities, and how to use tax policy to curb environmental excesses while being eco- and business-friendly without compromising revenue goals. It is well understood that tax policies are path-dependent and have to be context specific, so policymakers need to take into account the local economic, political, social and institutional environments as transformational tax policies are implemented. This book should serve as a guidance document for policymakers. Besides exploring ways for unleashing their tax potential at both the national and subnational levels, they need to redesign tax policies to serve the multiple goals of the Sustainable Development Goals.



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Abbreviations and acronyms

CIT	corporate income tax
ESCAP	Economic and Social Commission for Asia and the Pacific
ETR	environmental tax reform
FDI	foreign direct investment
GDP	gross domestic product
GHG	greenhouse gas
GST	goods and service tax
IMF	International Monetary Fund
OECD	Organisation for Economic Co-operation and Development
PIT	personal income tax
R&D	research and development
SCT	special consumption tax
SDG	Sustainable Development Goal
VAT	value-added tax

1. Tax Policy for Sustainable Development: Key Issues and Asia-Pacific Challenges

Tientip Subhanij, Shuvojit Banerjee, Zheng Jian

1. Introduction

Since prior to the adoption of the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda on Financing for Development in 2015, ESCAP has taken a leading role in facilitating Asia-Pacific region-wide debates on public finance and tax policies, in view of the importance of taxation for an inclusive and sustainable society.

Over the past four years, ESCAP organized four consecutive regional High-Level Dialogues on Financing for Development, where how to better leverage tax policies to support sustainable and inclusive development in the region was an important focus. At the latest meeting in Bangkok in 2017, finance ministers, senior officials and experts put an emphasis on the unique public finance challenges in the Asia-Pacific region, and on urbanization in particular, as well as on the importance of rethinking and recalibrating tax and public expenditure policies in view of the new principles and demands articulated in the 2030 Agenda.

In parallel, ESCAP has produced a series of studies and working papers on tax policy issues in the Asia-Pacific region, with specific focus on regional priorities, local experiences, and the social and environmental roles of tax policies that go beyond revenue mobilization. ESCAP also established the Eminent Expert Group on Tax Policy and Public Expenditure Management for Sustainable Development in 2016, as an

independent advisory board to solicit expert insights on these important issues from within the Asia-Pacific region and worldwide.

This volume, as a selected collection of ESCAP's working papers, intends to share some of the latest thinking on two major fronts: 1) the unique challenges and local experience of Asia and the Pacific on tax policy, which are reflected in Chapter 2 and Chapter 3; and 2) the potential of tax policies to support social and environmental agendas in the developing country context, as reflected in Chapter 4 and Chapter 5.

The following sections shed light on the policy thinking that motivated the chapters of this volume and introduce specific issues that will be discussed in subsequent chapters.

2. The tax challenge and a new strategy to finance the 2030 Agenda

Economic growth does not always translate into better well-being for everyone. And as economies progress, a rising tide may have lifted too few boats. The Government, therefore, has an important role to play in ensuring that the fruits of economic progress reach all citizens in society and that social harmony is strengthened.

The issue of what constitutes ideal tax policies gained prominence after the Second World War. Approaches to tax and development have changed several times over the past decades. Some have attempted to find a simple framework and a universal solution to manage a complicated reality, yet what is most needed is a variety of fiscal tools and measures suited to the context of each country.

The question of whether developing countries would learn to tax more was asked by Kaldor over 50 years ago (Kaldor, 1963). The observation reflected the fact that the ratio of tax to GDP was much lower in developing countries than in developed countries and this remains as relevant today as it was back in 1963 (Genschel and Seelkopf, 2016). In South Asia and Southeast Asia, total tax revenue excluding social contributions averaged merely 13.7 per cent of GDP in 2015, far below the developing country average of 20.2 per cent worldwide and the average 25.1 per cent of GDP for members of the Organisation for Economic Co-operation and Development (OECD) in the same year.¹ The persistently

¹ Data are from 2015 or the latest available year; South Asian sample include Afghanistan, Bangladesh, Bhutan, India, Islamic Republic of Iran, Maldives, Nepal, Pakistan, Sri Lanka and Turkey; Southeast Asian sample include Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Thailand, Timor-Leste and Viet Nam.

low tax-to-GDP in developing countries implies that tax revenue enhancement requires a much more nuanced approach than simply taxing more. A single-minded effort to raise tax-to-GDP ratios without considering the underlying local context for tax policies and the underlying mechanism that determines long-term revenue trends is unlikely to deliver the desired results.

Indeed, the search for optimal tax policies for developing countries has lasted for more than five decades and has undergone significant transformation. During the 1960s, the dominant view of good tax policy for developing countries called for a progressive personal income tax with a broad base. At the same time, indirect consumption taxes were considered undesirable, and both the international and subnational dimensions of taxation were largely ignored (Auerbach, 2010). Such thinking was in line with the prevailing Keynesian idea stressing the active role of Government in managing and influencing the economy. Tax policy ideology held that taxes should be more progressive and that more taxes were an important pre-condition for development.

The Washington consensus began to dominate the policy framework from the 1980s onwards² and the recommended tax model for development changed to reflect the new ideology. The main feature of tax policy was the broad-based and single rate value-added tax (VAT) (Ebrill et al., 2001). Countries were under pressure to substantially reduce their tariffs on imports. Personal and corporate income taxes remained important sources of revenue but with broader bases and lower rates, together with a call for few or no tax incentives. There was more interest in local governments and decentralized fiscal systems but most recommendations were limited to the use of traditional property taxes. The International Monetary Fund and international tax experts promoted a broad-based low rate approach to VAT and income taxes as a better alternative to sales taxes and as a tool to compensate for lower taxes on trade. The main idea of the tax policy recommendations to developing countries remained the same: it is better to tax more (Bird, 2013).

In practice, however, taxing more does not always mean taxing better. Despite attempts at taxing more, developing countries still have low levels of tax share in GDP, which may reflect economic and institutional factors that constrain the amount of taxes they can actually raise (Langford and Ohlenburg, 2016). The new insights on tax policies in more recent years have recommended a deviation from the old “one-size-fit-all” approach. It is now recognized that tax policies are path dependent and context specific

² The Washington consensus refers to a set of free market economic ideas, supported by the International Monetary Fund, the World Bank, the European Union and the United States. Essentially, it advocates free trade, floating exchange rates, free markets and macroeconomic stability.

(Bird, 2012), or in other words, they are highly localized. Many early tax policy recommendations for developing countries largely replicated what seemed successful in developed countries at that time. Yet the failure to adapt tax policy recommendations to local economic foundations, political and institutional environments, capacity constraints, technological limitations and social-cultural differences often resulted in tax policies that were ill-suited to the local context and fell far short of their promises. Such failed policies have hindered future reforms by creating vested interests and damaging the political will for experimental policy measures.

While somewhat greater emphasis has now been placed on a case-by-case approach adapted to unique local contexts and demands in developing countries today, much more attention still continues to be devoted to tax norms in developed countries and international best practices. There are still too few detailed case studies from developing countries to enable experts and policy advisors to fully understand the complex interactions between tax policies and local conditions, and understand the underlying rationales of the tax policy choices of these countries. Informed policy advice to developing countries must always take into account their diverse tax policy experiences and lessons, to avoid the risk of repeating past mistakes.

The traditional thinking on tax potential also focused solely on the supply side, where the development status and economic structure of a specific country defined how much money could be mobilized through taxes. However, recent thinking on the demand side contends that attainable tax levels reflect people's perception of the quality and responsiveness of the state (such as Bird, Martinez-Vazquez and Torgler, 2008; Bird and Zolt, 2015). Recent experience in Latin America also suggests that benign 'fiscal contracting' driven by a stronger middle class and more equal society on one side and a more accountable public sector on the other could ensure the success of revenue enhancement efforts.³

An immediate implication of these new findings is that increasing tax-to-GDP levels could be much more complex than expected and the reforms required could go beyond taxation itself. Tax experts have long noticed that there is no silver bullet in revenue mobilization, and policy recommendations increasingly take the form of a comprehensive package of actions. These include the following: setting up the necessary legal and institutional frameworks; rationalizing the tax mix and consolidating tax

³ Latin America successfully reduced income inequality and increased average tax-to-GDP ratio at the same time in the past decade. Recent studies suggest that these two factors may have reinforced each other as a more equal society and improved delivery of public services may have improved the willingness of people to pay more taxes for additional public goods.

codes; strengthening tax administration and streamlining procedures; adopting information technologies to facilitate tax filing and improve tax data collection; and strengthening efforts to educate tax payers and nurturing a healthy tax culture.

Enhancing tax revenue should no longer be viewed as a standalone initiative achieved through tax reform alone. Instead, it is more appropriate to consider it as an important component of a more comprehensive reform agenda, where revenue enhancement contributes to, and benefits from, progress across many aspects of social and economic development. The interaction between those sectors reflects the general emphasis of the 2030 Agenda on the integration of the economic, social and environmental pillars of development.

It is estimated that to achieve the SDGs in low-income and lower-middle-income countries, spending must increase by at least \$1.4 trillion per year, equivalent to 4 per cent of the estimated gross domestic product (GDP) of those countries measured in purchasing power parity, or 11.5 per cent of GDP in United States dollars at market exchange rates (Schmidt-Traub, 2015). Even under the optimistic assumption that the private sector can shoulder half of this overall financing demand, countries would have to mobilize an extra 2 per cent (based on purchasing power parity) to 5.8 per cent (based on market exchange rates) of GDP from public sector sources annually.

Despite these huge financing requirements, effective tax policies to support sustainable development need to go beyond revenue mobilization and fully leverage the potential of tax policies as important tools of Governments to guide the private sector, influence social and economic outcomes and deploy incentives for the public good. In this context, policymakers in the Asia-Pacific region need well-conceived tax policy options that prioritize the unique challenges they face, anchored on a better understanding of local policy experience. Those tax policy options must reflect a multidimensional vision and use the capacity for leverage to secure social and environmental outcomes for sustainable development.

3. City finance: addressing urbanization challenges in Asia and the Pacific

City finance is probably the most unique tax challenge for Asia and the Pacific, where the world's largest rural-urban transition is taking place. From 2000 to 2025, an estimated 1.1 billion people are projected to migrate into Asian cities, and Asia is already home to over half of the world's megacities (ESCAP, 2015). The total urban population in Asia is forecasted to exceed 2.6 billion in 2030, and around 60 per cent of the rise in the

world's urban population between 2000 and 2030 will take place in Asia. By 2030, overall urbanization in Asia is forecast at 53 per cent, compared to the global average forecast of 60 per cent and forecasts for other regions of 83 per cent for Latin America and 55 per cent for Africa. This means that massive urban expansion in Asia is expected to last for a much longer period compared to other developing regions.

The unprecedented speed and unique aspects of urbanization in Asia have put significant pressure on Governments, especially local governments, to mobilize needed revenues to finance growing cities. This is particularly important given that trillions of dollars are needed to provide adequate physical and social infrastructure and decent jobs in cities, while ensuring environmental sustainability. Such enormous expenditures must also be undertaken in a relatively short time span.

Considering the growing public spending needs, municipal governments of the region are often ill-prepared to meet the challenge. Almost all countries in Asia and the Pacific suffer from serious vertical imbalances, with local government expenditure far exceeding revenue (table 1.1). Consequently, cities have relied heavily on transfers from central governments and borrowing to fill their large fiscal gaps. In particular, the fiscal expansion in the aftermath of the 2007-2008 crisis exhausted the credit potential of many subnational governments in the region and led to swift accumulation of local government debt in a number of cases,⁴ threatening to destabilize the whole financial system.

Table 1.1
Estimated subnational government share of total public expenditure and revenue in Asian countries, 2009 (percentage)

Country	Share of Total Public Expenditure			Share of Total Public revenue		
	Subnational	Upper tier	Lower tier	Subnational	Upper tier	Lower tier
Bangladesh	15	5	10	2	1	1
India	66	33	33	33	30	3
Indonesia	35	7	28	8	5.5	2.5
Japan	60	20	40	40	20	20
Republic of Korea	45	15	30	25	10	15
Pakistan	33	28	5	7	6.5	0.5
Philippines	25	11	14	10	2.5	7.5
China	70	20	50	40	15	25
Thailand	10	5	5	2	1	1
Viet Nam	45	30	15	35	25	10

Source: Lewis and Searle (2010).

⁴ For example, in China and India.

Beyond these visible imbalances, municipal governments have hidden fiscal deficits as represented by spending gaps in basic urban infrastructure and services, which are even more worrying. For instance, the global slum population has been rising for decades. People living in slums have very limited access to basic services like water supply and sanitation and are very likely to be trapped in extreme urban poverty. Worldwide, the slum population was estimated to be 650 million in 1990, but rose to 760 million in 2000 and to 863 million in 2012 (United Nations, 2014). In 2012, 35 per cent of the urban population in South Asia was living in slum conditions (ESCAP, 2015). The potential financing need to upgrade slums for the hundreds of millions living in these conditions is not yet captured by the balance sheets of municipal governments in the region.

To prepare cities in Asia and the Pacific for these challenges, the policy space and local fiscal governance arrangements could be more important than specific resource mobilization instruments. Experts have long advocated for fiscal decentralization to provide municipal governments sufficient autonomy for efficient local resource mobilization. An appropriate level of fiscal decentralization can boost the accountability of municipal governments for the delivery of public goods and services by increasing their dependence on local tax payers for revenue rather than on transfers from the central Government.

However, fiscal decentralization is not only an economic decision, but a political decision as well and the level of fiscal autonomy in different cities covers a large spectrum. Policy recommendations on this issue must consider non-economic factors and be flexible enough to accommodate various second-best scenarios.

Recurrent property tax is a main revenue tool for municipal governments. It has been widely advocated as a primary tool for local taxation, and its merits include displaying a strong base with predictable income streams in large metropolitan areas and being difficult to evade. It also has benign built-in incentives as good local governance and quality public services increase real estate value and in turn increase future revenues. In developing countries, property tax can capture part of rising property values for sustained public investment and future development, and provide leverage against real estate speculation.

Yet despite this good rationale, establishing productive property tax in developing countries has proved difficult. In Asia and the Pacific, property tax is uncommon and on average contributes less than 0.5 per cent of GDP in revenue. The visibility of the tax is probably one main obstacle as tax payers often expect equally visible improvements in public services, which might be difficult to deliver. Property tax is also demanding on administrative capacities and real estate market development for proper

registration and valuation. The discretionary method of valuation in many developing countries and associated discrepancies could create strong pressure for reductions and fuel a negative reputation of the tax.

Given these challenges, experts increasingly advocate for a more diversified mix of revenue tools for municipal governments, with additional options such as taxes on motor vehicles, local income tax and many others. There are pros and cons for each option and the optimal choice will be highly situational. Policymakers in municipal governments in developing countries could benefit from access to an inventory of tax options to mobilize revenue, given their analysis of the most suitable conditions and pragmatic implementation strategies in that context.

Chapter 2 discusses these issues in depth. It focuses on metropolitan areas in response to the increasing concentration of urban populations in mega cities in Asia and the Pacific. This is also where greater potential of own-source local revenue mobilization exists. The discussion highlights the mismatch between the enormous spending needs of metropolitan cities in the region, given their status as centers for industrial agglomeration and population concentration, and their limited own source public revenues and high dependence on central government transfers for fiscal space. In fact, metropolitan cities in the region tend to have large and growing economic bases, and the main obstacles for more effective own-source revenue mobilization are institutional and policy constraints.

There is an urgent need for a more consolidated strategy for city finance, rather than fragmented or temporary measures, to sustain fast urbanization in the region and support healthy urban development. In general, reform needs to strike a better balance between expenditure responsibilities and revenue assignments for municipal governments. For metropolitan cities, which have much stronger local tax bases and greater spending responsibilities, it might be helpful to move the taxation powers closer to the local level and allow metropolitan city governments greater fiscal autonomy compared to the rest of the country.

One of the main arguments for stronger own-source revenue mobilization is that it increases the accountability of officials in financing local public services by levying taxes on residents. As a general principle, metropolitan local governments need to have greater authority to levy certain new taxes and charges, and at the same time they must be required to use these powers to finance their budgets. Intergovernmental transfers to metropolitan local governments should ideally be limited to covering the cost of benefits that spill over the boundary of the metropolitan areas.

While recognizing the importance of fiscal autonomy to meet the city finance challenge, the chapter also emphasizes that optimal solutions will differ according to the local context. It points out that city finance is not just a revenue mobilization or tax policy issue, but more fundamentally a fiscal governance issue at the national and local level. It provides a comprehensive review of the advantages and disadvantages of three broad fiscal governance modalities in metropolitan areas representing different levels of consolidation in revenue mobilization and public service delivery.

In terms of financing options, metropolitan governments can mobilize a broad range of revenue sources, each of which carry different costs and benefits. These include property and land taxes, value capture,⁵ transport or fuel taxes, user charges, broad-based local business, sales and consumption taxes, and intergovernmental transfers. The chapter provides a detailed discussion of the nature of these different choices and of the corresponding implementation strategies. It argues that the metropolitan area-wide local government could levy taxes on motor vehicles and business sales and collect user charges more efficiently, and could impose a piggyback levy on certain central (or state/provincial) taxes. Meanwhile, the underlying local governments could focus more on property taxes, benefit taxes and licenses.

Going forward, a specific option that warrants consideration by Asia-Pacific developing countries is to develop a metropolitan fiscal strategy that provides a special governance and financing regime for metropolitan cities. The concentration of urban populations and urban economies in metropolitan cities has pushed their current systems of public service delivery and public revenue mobilization to change. More countries have started to recognize that urban economic growth will not be sustainable without a metropolitan strategy that resolves the underlying governance and financing problems. Metropolitan local governments should have more autonomy in their spending and revenue raising decisions compared to other local governments. In particular, area-wide planning and governance with a jurisdiction boundary that is large enough to internalize spillover benefits and costs and capture economies of scale may offer the best future.

⁵ Value capture refers to the process of using various fiscal instruments to capture a portion of land value increments to support the financing of public investments and services.

4. Tax incentives in Asia and the Pacific: what does the local experience say?

The use of tax incentives is a contentious topic in the Asia-Pacific region. On the one hand, a body of studies, including the recent joint background paper by the International Monetary Fund (IMF), OECD, the United Nations and the World Bank for the Group of 20 (2015), suggest that tax incentives developing countries offer to attract investment may be largely ineffective despite being a substantial drain on tax revenues. On the other hand, newly industrialized economies, especially in East and Southeast Asia,⁶ have extensively leveraged tax incentives to attract investment and technology and promote industrialization. Their remarkable economic progress seems convincing for many neighbouring countries to pursue similar policies.

Indeed, tax incentives do seem more prevalent in developing Asia-Pacific. James (2013) reports that all (or 100 per cent) of the seven surveyed South Asian countries and 11 (or 92 per cent) of the 12 surveyed East Asia and Pacific countries provide tax holidays or exemptions. This is much higher compared to around 75 per cent in Eastern Europe, Latin America and the Caribbean, Middle-East and North Africa, 60 per cent in Sub-Saharan Africa, and 21 per cent in OECD countries. Table 1.2, for example, shows tax holiday years in Southeast Asia. South Asia is also top in the world in providing VAT exemption or reduction. East Asia and the Pacific meanwhile tops in the use of reduced tax rates, investment allowances and tax credits, and R&D tax incentives.

Table 1.2
Tax holiday years in selected Asia-Pacific countries

Country	Maximum tax holiday years
Cambodia	9
Indonesia	20
Lao PDR	10
Malaysia	10
Myanmar	5
Philippines	6
Singapore	negotiable
Thailand	11
Viet Nam	4

Source: World Bank (2015).

⁶ Most notably China, Republic of Korea, Singapore and Taiwan Province of China.

With increasing globalization of capital, corporate income tax (CIT) in the region has also come under pressure. In response to growing tax competition and declining corporate tax rates worldwide, Keen and Simone (2004) noted reductions in both the rate and the base resulting from corporate tax reform in Asia and the Pacific. More recent evidence suggests tax competition could be a real threat in the region, and as regional integration further deepens this risk could be even greater.⁷

Should developing countries in Asia and the Pacific overhaul their tax incentive policy? Should they adopt the best practices recommended to abolish or minimize the use of tax incentives? Or how should they use this policy tool more effectively? There is probably no definitive answer to any of these questions and a cautious approach to a one-size-fits-all view on tax incentives is advisable in any case.

As Chapter 3 points out, conventional recommendations for tax incentives focus mainly on promoting investment and are based on optimal tax theory⁸ and the empirical, although limited, evidence of their effectiveness. Not all tax incentives aim to promote investment, and in many developing countries where there is a large presence of the informal sector and a serious threat of tax evasion through informal practices, tax incentives could be employed as a policy tool to encourage firms to stay formal and tax registered. In this scenario, tax incentives are used as a second-best choice for revenue base protection given the specific local context and constraints.

Profit shifting is another serious concern for developing countries. Governments can support local firms operating in the formal sector by providing tax incentives that appear to be more generous than warranted by their perceived effects on marginal investment, along with non-tax benefits such as easier access to bank loans. In the process, foreign firms, which may be more prone to tax evasion via profit shifting, might be discriminated against implicitly, or even more explicitly through a variety of regulations.

Regarding tax incentives for investment, the central challenge is “striking the right balance between an attractive tax regime for domestic and foreign investment . . . and securing the necessary revenues for public spending” (IMF et al., 2015). However, evaluating the effectiveness of tax incentives based on this criterion could be extremely difficult.

⁷ Chen et al. (2012). The study covers Australia; China; Fiji; Hong Kong, China; India; Indonesia; Japan; Republic of Korea; Malaysia; New Zealand; Pakistan; Philippines; Singapore; and Thailand; KPMG (2014); For an earlier study on tax competition in the Association of Southeast Asian Nations, see Chia and Whalley (1995).

⁸ Optimal tax theory is the study concerning the design and implementation of a tax policy that reduces inefficiency and distortion in the economy given economic constraints.

First, it is almost impossible to establish causality between tax incentives and increased investments or job creation. Tax incentives are often part of a broader package of policies to improve the business environment, such as accelerated administrative procedures, priority land use and utility supply, or loans from development financing institutions. Second, even if the impacts of tax incentives could be identified, evaluating their overall benefits is another challenge, due to externalities and problems with quantitative valuation of social objectives.⁹

At the same time, quantifying the full cost of tax incentives is challenging. Revenue loss is the most direct cost of tax incentives and countries should certainly track tax expenditure related to tax incentives, although there are limitations to this approach. First, it is difficult to establish a benchmark for the revenue level if incentives were introduced or removed. Existing methods often fail to account for behavioural responses, leakage or abuse (IMF et al., 2015). Second, tax incentives have enforcement and compliance costs and create rent seeking opportunities for corruptions.

For these reasons, the cost-benefit analysis of tax incentives cannot be determined simply by estimating the investment attracted or jobs created. An optimal tax incentive strategy could be highly dependent on the overall development objectives and economic situation of a country, and on the discretion of policymakers in certain cases.

Chapter 3 takes a further step in understanding the practical considerations of tax incentive policies in different local contexts and assesses the policy choices of three notable Asia-Pacific success stories, namely: Hong Kong, China; the Republic of Korea; and Singapore. The three economies all experienced remarkable economic success and made extensive use of tax incentives in their growth processes, however, each used a very different tax incentive strategy. Hong Kong, China attracted foreign investors through a market-friendly investment environment, including a simple tax system with low and uniform rates. Singapore was very proactive in providing foreign investors with generous broad-based tax incentives as part of an investment-friendly environment, but adjusted the extent and format of tax incentives over time to support focused areas such as entrepreneurship and research and development. In contrast, the Republic of Korea had a relatively weak investment climate. It, to a large extent, used tax incentives to support tax-paying domestic firms instead of

⁹ Concerning externalities, tax incentives for strategic sectors like steel or heavy machinery may create fewer jobs given their capital intensive nature. Yet these sectors provide a foundation for many other manufacturing sectors, and the overall benefits could significantly outweigh the costs if externalities are accounted for; The quantitative valuation of social objectives refers to the dollar benefit of agricultural tax incentives if national food security is a concern, or the dollar benefit of tax incentives for traditional handicraft manufacturing if protecting local culture is a policy priority.

focusing on attracting foreign investment, and, in an earlier stage, to prevent firms from shifting their operations into the informal sector.

A nuanced view of the effective use of tax incentives is essential, and it hinges on country-specific factors and priorities. While the general principles for the better use of tax incentives for investment in developing countries remain valid and better analytical tools to help policymakers understand the tangible costs and benefits of tax incentives would be extremely useful, seeking to establish a single set of golden rules or practices for tax incentives may not be the right direction. Instead, a closer examination of the relatively successful tax incentive policies in developing countries and a better understanding of real drivers behind tax incentive policy choices could better provide the knowledge policymakers need to evaluate tax incentives in a more holistic manner in connection with their national priorities and unique local context.

5. Progressive tax policy: prospect for a greater role in addressing growing income and wealth inequality

Tax theories put a primary emphasis on broad-based progressive direct taxes in the 1960s, however, the social functions of redistributive tax policies were largely overlooked in the 1980s and 1990s when the focus shifted to indirect taxes like VAT and a strategy to reduce inequality mainly through progressive public spending. In more recent years, however, progressive income taxes and wealth taxes received renewed attention when widening income gaps, stagnant wage growth and continuing concentration of wealth in the top 1 per cent generated increasing public concern over inequality worldwide.

Asia and the Pacific, historically, had greater income and wealth equality compared to other developing regions, partly due to the large presence of socialist regimes and the early success of the “Asian Tigers” in growing with equity.¹⁰ However, since the late 1990s this picture has changed dramatically. Fast economic growth led to a sharp increase in income inequality when more countries embraced the market economy. Meanwhile, the turmoil in former Soviet States shattered their previous social and economic structures and extreme inequality gripped those countries almost overnight.

In most of these cases, the rich reaped the bulk of the benefits created by economic growth. In Bangladesh, India, the Lao People’s Democratic Republic and Sri Lanka, only the top 20 per cent increased their share in the overall income pool, while all other wealth quintiles suffered a decrease in

¹⁰ The Republic of Korea; Singapore; Hong Kong, China; and Taiwan Province of China.

their share. In China, growth succeeded in lifting hundreds of millions out of poverty and nurtured a broad middle class, but the bottom 10 per cent remained deeply marginalized and their share in the overall income pool almost halved from 3.18 per cent to 1.69 per cent between 1993 and 2010.

Rapid wealth concentration could be considered even more alarming. Normally wealth inequality builds up as income inequality accumulates, yet it has already reached extremely high levels in a number of cases. In the Russian Federation for instance, the richest top 5 per cent is estimated to control 82 per cent of the nation's total private wealth, and the top 1 per cent control 70 per cent. The wealth Gini coefficient in Asia and the Pacific, excluding China and India, stood at 90.4 in 2015, topping any other region in the world.¹¹

Chapter 4 advocates for a positive but prudent approach to progressive taxes in developing countries in the region. The political-economy context of progressive tax policies has started to change in recent years. At the global level, the 2007-2008 financial and economic crisis triggered a new wave of debate over the underlying long-term inequality trend and the fairness of taxes and public programmes. It led to a brighter prospect for progressive taxes on income and wealth in order to stabilize the long-term inequality level, including across generations. In Asia and the Pacific, rising inequality has also attracted greater public attention, which is translating into stronger political pressure for Governments to narrow the income and wealth gaps. With the principle of inclusive growth increasingly mainstreamed into national development strategies of developing countries in the region,¹² it is likely that progressive tax elements will be introduced in their tax systems.

Chapter 4 also assesses pragmatic challenges to progressive tax policy design and implementation in developing countries based on both international best practices and regional experience. Several broad lessons emerge from the analysis of progressive tax reforms implemented in the region. First, the progressivity of the rate structure on paper is less important than the detailed design of the tax and the related behavioural factors. For instance, a seemingly progressive personal income tax (PIT) schedule could be neither productive in revenue mobilization nor progressive if the tax targets only salary income while leaving capital/property gains out. A top PIT rate that is far higher than CIT rate might result in high income individuals hiding their real income in corporate operations and evading the tax.

¹¹ Credit Suisse, *Global Wealth Databook 2016*.

¹² For instance, China's 13th five year plan (2016-20) emphasizes a more balanced, inclusive and sustainable growth model, as do India's 12th five year plan (2012-17) and the Philippines Development Plan (2011-16).

A second lesson is that there is no one-size-fits-all formula to implement progressive direct taxes. The timing, sequencing and design of the tax and related policies must consider local economic, social and cultural conditions, as well as compliance and administration constraints and capacities. A moderate but well-designed progressive tax that is manageable and accountable would outperform an overambitious strategy that is only better on paper. This is particularly true for long-term objectives when policies are often path-dependent and a bad start could leave undesirable legacies.

A third lesson is that policymakers, and to some extent the general public, need to understand that there is a learning curve in the design and implementation of progressive taxation. Complex tax tools, like property or wealth taxes, require a mature economic and institutional environment and a favourable tax culture to be effective. They also require time for policymakers and tax administrators to absorb lessons from the actual implementation and then develop innovative solutions to fit unique local contexts. Patient experimentation and prudent decision-making, rather than hasty actions, are more likely to succeed in reducing inequality.

6. Environmental taxes: the environmental dimension of tax policy

Environmental taxes¹³ are increasingly recognized and used as important policy instruments to promote a better balance between the economic, social and environmental dimensions of sustainable development. They are levied on market activities that generates negative externalities. By making polluters pay for the costs they impose on society and the environment, such taxes essentially internalize the true costs of producing goods and services. Environmental taxes can also be designed to replace other distortionary taxation, such as labour or capital tax, and shift tax burdens from 'economic goods' to 'economic bads' without increasing the overall tax burden.

OECD countries have been pioneers in environmental taxes. Currently there are about 375 such taxes in OECD countries, raising revenues in the order of 2-2.5 per cent of GDP. About 90 per cent of this revenue stems from taxes on motor vehicle fuels and motor vehicles, whereas revenue-raising is not a prime motivation for many other taxes

¹³ An environmental tax is a tax whose tax base is a physical unit (or a proxy of it) that has a proven specific negative impact on the environment.

applied.¹⁴ In the European Union, the total revenues from environmental related taxes were equivalent to 2.5 per cent of GDP and 6.3 per cent of total tax and social contribution revenues in 2014. The main types of environmental taxation are taxes on energy, including taxes on carbon or on transport fuels; vehicle taxes, such as on ownership or annual levies on vehicles; and pollution or resource taxes. In European countries, energy taxes constitute three-quarters of total environmental taxation, vehicle taxes make up one-fifth; and pollution and resource taxes make up the small remainder (4 per cent) (EEA, 2016).

In the Asia-Pacific region, internationally comparable data shows that environmental taxation (except in the Republic of Korea) is generally lower than the OECD average. There is also a discernible trend of declining shares of revenue since 2000. This may be due to different reasons including: that not all countries maintain real tax rate levels; the economic crisis (2000-2014) depressed the environmental tax base; and increasing environmental tax rates may increase revenues in the short- and medium-term but in the longer-run, the decrease in harmful emissions that they induce will lead to a reduction in the tax base over time and in the revenues resulting from it (OECD, 2016). For example, in the European Union, although the number of environmental taxes has increased over the past decade and a half, the revenues they generate as a proportion of GDP has decreased. Other environmental policies may also overlap to further reduce the tax base. Finally, in terms of sectors, Asia-Pacific countries made less use of energy taxes (three-fifths of total environmental taxation) than the OECD average, but more use of motor vehicle taxation (just over one third).

Environmental taxation has several benefits. Studies have shown that environmental tax evasion is much lower than for other taxes. For instance, in Sweden the carbon tax evasion rate is 1 per cent and in the United Kingdom the energy tax evasion rate is about 2 per cent, compared to about 17 per cent evasion of income tax (EEA, 2016). A carbon tax is also relatively easy to implement, as it can be built into the existing taxation structure, for instance, through an expansion of energy taxes.

Despite the potential benefits of implementing environmental taxes, there are concerns related to the distributional income effects on households and sectoral competitiveness issues. Energy taxes can have a regressive impact on income distribution. The impact could be reduced through tax exemptions for low-income households, although exemptions may undermine the environmental objective of the tax itself. For example,

¹⁴ A database operated by OECD and the European Environment Agency (EEA) currently details about 375 such taxes in OECD countries in addition to some 250 environment-related fees and charges. Available from <http://www2.oecd.org/econst/queries/>.

exemptions on a tax on fuel or water use will eliminate the incentive for households to reduce their consumption or look for alternative sources.

The loss of competitiveness of energy intensive and environmentally damaging sectors of the economy is another major concern related to implementing environmental taxes, as they are likely to have negative impacts on international competitiveness if they are not implemented in a global manner. Specifically, high environmental tax rates may push businesses to relocate to lower-tax countries to the economic detriment of the taxing country. A non-taxing country may accept a higher level of pollution than the taxing country, but environmental damage easily travels across borders. A company that emits pollutants into the air may relocate to avoid environmental taxes, yet the damage to the global environment will remain the same.

Maintaining international competitiveness is a very important aspect of the political economy of energy taxation. To ensure equal treatment for domestic and international products while maintaining competitiveness, countries can implement a tax adjustment at the border to refund exports or impose a tax on imports. Importing countries, for example, can use border adjustments to reflect the cost increase that would have been applied to a product had the exporting country imposed an energy tax or similar policy. A second possible approach is tax shifting, where government tax revenue is returned to companies to offset the high costs of transitioning production processes to less energy-intensive options.

Policymakers must take strategic actions to maximize the political feasibility of environmental tax reform (ETR) and overcome obstacles and opposition to implementation. Strategic considerations often result in trade-offs between environmental effectiveness, fiscal impact and political acceptability. As Chapter 5 illustrates, country context is crucial to the feasibility of implementing a comprehensive ETR or single measures. In rapidly growing emerging economies, where a broad process of fiscal reform is administratively and politically feasible, policymakers should identify their priority objectives – environmental, economic and social - and develop a programme of fiscal reform that responds to as many of these issues as possible. This means increasing public awareness on environmental issues and gaining support for the reform from key stakeholders, include influential actors in industrial sectors, or choosing measures which are administratively feasible and easy to realize. Pursuing easy wins and priority ETR actions can establish a policymaking culture of using market-based instruments for environmental policy.

Policymakers can also consider introducing ETR as part of a broader fiscal reform to foster political acceptance. Whether comprehensive reform or individual tax, what is crucial for long-term success and environmental

effectiveness of ETR is that measures are credible and predictable, and to spur investment based on long-term regulatory certainty. Providing a lead-in time before a policy comes into force, or introducing a tax at a low rate with year-on-year increases, or both, can give business and individual consumers time to adjust to and prepare for the new measure and foster trust in Government. Policymakers need to choose a path where administrative capacity is sufficient to enforce the proposed ETR instruments. Revenues from environmental taxes can be used strategically to boost political acceptance if spending is allocated to widely recognized political priorities. Governments can explicitly state that tax revenue will support expenditures such as infrastructure, poverty reduction or climate change mitigation and adaptation.

Concerns about the negative social impacts of implementing ETR, specifically higher prices from energy taxes, are a significant obstacle. Chapter 5 demonstrates, however, that ETR accompanied by a range of well-designed and targeted compensation measures for poor and vulnerable people can avoid negative impacts of these reforms. Compensation measures that incentivize behaviour change and innovation should be policy priorities, as such measures promote the efficiency and effectiveness of ETR and reduce the general cost of transition to an environment-friendly economy. A variety of policy choices which integrate social and environmental dimensions include: safeguarding policies that provide compensation for the social cost of green policies, such as cash transfers; co-benefits policies that promote win-win strategies in driving the green transition, such as conditional cash transfers; and social transformation policies, such as labour rights reform. Several ongoing international policy processes and international platforms and organizations focusing on environmental fiscal reform offer Governments the chance to collaborate on the development of ETR measures, agree on timelines and exchange and learn from each other's experiences. These include the Paris Agreement, Kyoto Protocol, the Sustainable Development Goals (SDGs) and commitments through the Group of 20 and the Asia-Pacific Economic Cooperation (APEC) forum to phase out fossil fuel subsidies.

Some guiding principles can enable ETR to succeed in Asia and the Pacific. Policy objectives for tax design must be clearly defined, and instruments must be chosen and designed with these objectives in mind. Environmental impact, economic efficiency and cost-effectiveness, distributional impacts, administrative and political feasibility are the main criteria to guide instrument choice, along with the capacity of the State to implement the suggested instruments. Reform measures may be indexed to inflation or GDP growth with an added escalator, so that tax rates are not devalued, but increase year-on-year. In this way, low initial rates make it easier to gain political acceptance and build in time to adjust, while

increases over time ensure stable revenues and environmental effectiveness. Encouraging private investment requires extra measures to minimize risk and create stable investment frameworks that increase the probability of, or even guarantee, safe returns. Such measures can include low-cost loan provision for private investors, accelerated depreciation, subsidized interest rates for renewable energy and long-term power purchase agreements.

Finally, communication and cooperation at all levels in policy design and implementation is critical to ETR. Cooperation with different government ministries will lead to better policy design and more effective implementation. Communication with all stakeholders can improve understanding and strengthen political acceptance of ETR, while empowerment and ownership of particular reform measures can be secured by involving key stakeholders in policy development.

7. Conclusion: setting the right reform

The multifaceted nature of tax policy for sustainable development discussed in this book necessarily implies one clear message: good tax policy is a process of institutional reform which necessitates political consensus. The main issue in designing tax policy should, therefore, be less about 'how much' or 'what type' of taxes we collect, but more about what kind of reform people in society want.

Tax policy thinking needs to consider all aspects of the economic, social and environmental dimensions and should step away from the old belief that taxing more means taxing better. Today's low level of tax to GDP in most developing countries implies that the attempt at taxing more has not been successful, as some developing countries may have already reached their tax capacity given their economic and institutional conditions. In this context, attention should be paid to improving tax systems, rather than collecting more taxes.

Reforming tax systems, however, is a long national process that is not just about economics. Unless there is a certain degree of political agreement on the right thing to do, tax reform will not be sustainable. This does not necessarily mean that everyone must share a unified view, but at least most people in the society should agree that the policy is fair, their views were heard and they are capable of living with the outcomes of the tax reform.

In this context, it is important to first understand the political and economic factors that shape outcomes and policy decisions, to provide meaningful advice to any country about their tax issues. This is because the level and structure of taxation is a result of deep-rooted institutional factors that only change slowly. Tax policy decisions are path-dependent and are the result of complicated social and political interactions among different

groups of people in a country. They are also dependent on institutions, history and public administrative capacity. Taxation is, therefore, not just a revenue mobilization tool or a means of financing SDGs, but an important element of the social commitment between the Government and the people.

To design good tax policy, it is useful to think about taxes in terms of the many roles that they can play. In terms of stabilization, taxes can be used as a tool to mobilize sufficient revenue to finance sustainable public expenditures. In terms of redistribution, taxes can impact the distribution of income and wealth. In terms of regulation, taxes can alter the incentive structure of the private sector and its allocative decisions. These different dimensions of taxes are important for effective pursuit of the Sustainable Development Agenda.

In this regard, we need to distinguish between the short-term and long-term goals of tax policy. Tax reform aimed at immediate revenue generation in bad times will likely be different from one whose objective is to sustain economic growth or to achieve a more equal and sustainable society. Consideration of the macroeconomic environment is indeed much more important than generally recognized in most tax advice and, if factored in properly, has the potential to increase social acceptance.

Tax policy reform in developing countries should also more seriously factor in the use of tax incentives. This is because no matter how strongly tax experts demonstrate that most tax incentives yield very little or nothing at all in terms of net gains for a society as a whole, politicians continue to provide incentives either as part of the national economic strategy or simply as part of an effort to gain more popularity. As some countries have benefited from such incentives, we should therefore accept their existence and not focus too much on efforts to eliminate them but focus instead on developing a mechanism to ensure their efficiency and effectiveness over time.

To design good tax policy, the process must be inclusive through involving all stakeholders such as economists, lawyers, administrators and, importantly, taxpayers. Long-term institutional capacity building is required to ensure that countries can implement tax policies that are responsive to changing needs and circumstances. The role of tax experts and international organizations should be to support and respond to the needs of countries as they reform their systems, rather than prescribing best practice or benchmarking. Few countries in Asia and the Pacific that are considered successful today have followed anything like 'best practice' as a guide to policy reform. On the contrary, they changed their tax structures and administrations gradually over time in response to changes in the underlying economic, political and social environment.

Long-term institution building for tax reform is rarely immediately rewarding, but is perhaps the most useful approach through which Governments, tax experts and international organizations alike can truly support the ongoing quest to achieve more efficient, equitable and sustainable tax systems.

References

- Auerbach, Alan J. (2010). Directions in tax and transfer theory. In *Melbourne Institute – Australia's Future Tax and Transfer Policy Conference*. Melbourne: Melbourne Institute of Applied Economic and Social Research.
- Bird, Richard M. (2012). Taxation and Development: What Have We Learned from Fifty Years of Research? International Center for Public Policy Working Paper, No. 12-02. Atlanta, Georgia.: Georgia State University. Available from <http://icepp.gsu.edu/files/2015/03/isppw1202.pdf>
- (2013). Foreign advice and tax policy in developing countries. International Center for Public Policy Working Paper, No. 13-07. Atlanta, Georgia.: Georgia State University. Available from <http://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1037&context=icepp>.
- Bird, Richard M., J. Martinez-Vazquez and B. Torgler (2008). Tax effort in developing countries and high income countries: The impact of corruption, voice and accountability. *Economic Analysis and Policy*, vol. 38, No.1, pp. 55–71.
- Chen Y., W.H. Huang and P.J. Regis (2012). Do Asia and Pacific countries compete in corporate tax rates? *Journal of the Asia-Pacific Economy*, vol. 19, No. 1.
- Chia, N.C. and J. Whalley (1995). Patterns in investment incentives among developing countries. In *Fiscal Incentives for Investment and Innovation*, Anwar Shah, ed. New York: Oxford University Press.
- Ebrill, L., and others eds. (2001). *The Modern VAT*. Washington, D.C.: International Monetary Fund.
- European Environmental Agency (EEA) (2016). *Environmental taxation and EU environmental policies*. Luxembourg.
- Genschel, P., and L. Seelkopf (2016). Did they learn to tax? Taxation trends outside the OECD. *Review of International Political Economy*, vol. 23, No. 2 (May).
- IMF, Organisation for Economic Co-operation and Development (OECD), United Nations and World Bank (2015). Options for low income countries' effective and efficient use of tax incentives for investment: tools for the assessment of tax incentives. Available from www.oecd.org/tax/tax-global/options-for-low-income-countries-effective-and-efficient-use-of-tax-incentives-for-investment.pdf.
- James, Sebastian (2013). Effectiveness of Tax and Non-Tax Incentives and Investments: Evidence and Policy Implications. Available at SSRN: <https://ssrn.com/abstract=2401905>. or <http://dx.doi.org/10.2139/ssrn.2401905>
- Kaldor, N. (1963). Will underdeveloped countries learn to tax?', *Foreign Affairs*, (January).
- Keen, Michael, and Alejandro Simone (2004). Tax Policy in Developing Countries: Some Lessons from the 1990s and Some Challenges Ahead. In *Helping Countries Develop: The Role of Fiscal Policy*, Sanjeev Gupta, Benedict Clements, and Gabriela Inchauste eds. Washington, D.C.: International Monetary Fund, pp. 302–352.
- KPMG (2014). The ASEAN Economic Community 2015. Available from www.kpmg.com/SG/en/IssuesAndInsights/ArticlesPublications/Documents/Tax-Itax-The-ASEAN-Economic-Community-2015.pdf.
- Langford, B., and T. Ohlenburg (2016). Tax revenue potential and effort: an empirical investigation. Working Paper No. S-43202-UGA-1. London: International Growth Centre. Available from www.theigc.org/wp-content/uploads/2016/01/Langford-Ohlenburg-2016-Working-paper.pdf
- Lewis, Blane, and Bob Searle (2010). Asia-Pacific. In *Local Government Finance: The Challenges of the 21st Century. Second Global Report on Decentralization and Local Democracy*. United Cities and Local Governments. Cheltenham, United Kingdom: Edward Elgar.

- Martinez-Vazquez, Jorge (2011). Taxation in Asia. Asian Development Bank. Available from <http://hdl.handle.net/11540/969>.
- OECD (2016). Tax Policy Reform in the OECD 2016. Paris.
- Schmidt-Traub, Guido (2015). Investment needs to achieve the Sustainable Development Goals: understanding the billions. SDSN Working Paper. Paris: Sustainable Development Solutions Network. Available from <http://unsdsn.org/wp-content/uploads/2015/09/151112-SDG-Financing-Needs.pdf>.
- United Nations (2014). *Millennium Development Goals Report 2014*. New York.
- _____ (2015). Addis Ababa Action Agenda of the Third International Conference on Financing for Development. New York. Available from http://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf.
- United Nations Economic and Social Commission for Asia and the Pacific (2014). Economic and Social Survey of Asia and the Pacific 2014. Sales No. E.14.II.F.4.
- _____ (2016). Economic and Social Survey of Asia and the Pacific 2016. Sales No. E.16.II.F.10.
- _____ (2017). Issues paper on tax policy and public expenditure management in Asia and the Pacific. Background document for the 4th High-level Dialogue on Financing for Development. Bangkok. Available from www.unescap.org/sites/default/files/S1_Issues-Paper-on-Tax-Policy.pdf.
- United Nations Economic and Social Commission for Asia and the Pacific and UN-Habitat (2015). The State of Asian and Pacific Cities 2015 Urban transformations: Shifting from quantity to Quality. Bangkok. Available from www.unescap.org/sites/default/files/The%20State%20of%20Asian%20and%20Pacific%20Cities%202015.pdf
- United Nations Millennium Project (2005). *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*. New York. Available from [http://siteresources.worldbank.org/INTTSR/Resources/MainReportComplete-lowres\[1\].pdf](http://siteresources.worldbank.org/INTTSR/Resources/MainReportComplete-lowres[1].pdf).
- World Bank and IMF (2015). From Billions to Trillions: Transforming Development Finance, Post-2015 Financing for Development: Multilateral Development Finance. Washington, D.C. Available from [http://siteresources.worldbank.org/DEVCOMMINT/Documentation/23659446/DC2015-0002\(E\)FinancingforDevelopment.pdf](http://siteresources.worldbank.org/DEVCOMMINT/Documentation/23659446/DC2015-0002(E)FinancingforDevelopment.pdf)
- World Bank (2015). *East Asia-Pacific Economic Update, October 2015: Staying the Course*. Washington, D.C.: World Bank.
- _____ (2017). Paying Taxes 2017. Available from www.pwc.com/gx/en/paying-taxes/pdf/pwc-paying-taxes-2017.pdf.

2. Metropolitan City Finances in the Asia and Pacific Region: Issues, Problems and Reform Options

Roy Bahl

1. Introduction

With unprecedented urbanization and the ambitious 2030 Agenda for Sustainable Development, countries will need to engage in fundamental restructuring of governance and finance to address this challenge and realize the objectives of sustainable and inclusive development. It will be challenging to meet the Sustainable Development Goals. In particular, Goal 11 “Sustainable cities and communities”, Goal 1 “No poverty”, Goal 6 “Clean water and sanitation” and Goal 9 “Industry, innovation and infrastructure” require that Governments ensure access to affordable housing and basic services, upgrade slums and provide safe, affordable, accessible and sustainable sanitation, protection from fire hazards and transport systems, with special attention to the needs of those in vulnerable situations. Even to move in the direction of such goals, Asian and Pacific countries must find ways to provide public services more efficiently, to govern metropolitan areas¹⁵ with a better eye toward ensuring equity in the

¹⁵ The term ‘metropolitan area’ refers to the built-up space covered by large cities, including their suburban areas. This is similar to the United Nations (2008, p, 13) definition of ‘urban agglomeration’, which includes the population “contained within the contours of a contiguous territory inhabited at urban density levels without regard to administrative boundaries.”

provision of services, and to mobilize more resources through taxes and charges for services.

The focus here is on the last of these areas, revenue mobilization by local Governments in metropolitan areas. It is meant to help policymakers in the Asia-Pacific region in two ways: by providing a policy framework for an overall city financing strategy, and by identifying some of the specific options for increasing metropolitan local government revenues.

Given the sheer scale of Asia-Pacific urbanization in recent decades and forecasts for the coming decades and the enormous investment gaps in urban infrastructure, public services, housing and environmental sustainability, a comprehensive reform of the system of financing large cities would be necessary to resolve the revenue shortfall challenge in the region. The economic base of metropolitan cities is large and growing, and moving taxation powers closer to the local governments may help to mobilize revenue. A reform programme consistent with these objectives can be designed and implemented, but as with any new programme, there will be many capacity, legal and political hurdles to overcome.

Most importantly, this reform will require an asymmetric approach to public expenditure and revenue assignments under which metropolitan local governments will have greater autonomy than local governments in the rest of the country. The reform will need to be comprehensive. It will call out changes in both the governance structure of metropolitan areas and the assignment of expenditure responsibilities. Services that provide area-wide benefits will need to be provided directly by regional local governments, with taxing and charging powers, or at least the delivery of these services must be coordinated effectively. A lower tier of local government might also be responsible for local services. However, the senior local government in the region will be the metropolitan authority, which also will be responsible for equalization of public service levels within the metropolitan area.

Intergovernmental transfers to metropolitan local governments will be limited to those that are required to cover the cost of benefits that spillover beyond the boundary of the metropolitan areas. Otherwise, metropolitan area local governments will be responsible for covering the costs of the services they provide. This can improve the efficiency of local public service provision, and it can free up significant revenue for allocation to other purposes.

Metropolitan local governments would be given the power to levy certain new taxes and charges, and they should be required to use these powers to finance their budgets. The metropolitan area-wide local government could levy more efficient taxes on motor vehicles, business sales and property, and user charges, and could impose a piggyback levy

on certain central (or state/provincial) taxes. The underlying local governments could focus on property taxes, benefit taxes and licenses.

While these general principles would provide useful guidance for policy decisions, it is worth highlighting upfront that there would be no simple “one size fit all” solution. The choices of strategy, policy and implementation will depend on the local context of governance structure, institutions, preferences of the citizenry and socioeconomic considerations.

A second limitation is that some important topics are not covered in this discussion. These include notably, land policy, housing finance, public-private partnerships, local public administration, and regimes for debt finance. A separate paper could be written on each of those topics, and including any of them in this discussion diverges too far from the central concern of this chapter. Also, this chapter limits the discussion to low- and middle-income countries in the region, even though the experiences in the more industrialized countries can be very constructive.

Finally, there is the question of which metropolitan areas in the Asia-Pacific region are good candidates for the reform options discussed. No specific list of cities is proposed here, but the focus is on large urban agglomerations and on countries where subnational governments play a more significant role in the fiscal structure.

This chapter begins with a discussion of why revenue mobilization by big city governments has become an important question, and how the development of a proper framework for metropolitan finance might be approached. It then presents a critical review of the governance and finance practices in metropolitan areas in the Asia-Pacific region, followed by a discussion of the reform options that might be part of a way forward.

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2. Urbanization and the fiscal challenge of financing large cities

The urban population of the Asia-Pacific region more than doubled between 1950 and 1975, doubled again between 1975 and 2000 and is projected to almost double once more between 2000 and 2025. In absolute terms, the current quarter century (2000-2025) is projected to add an estimated 1.1 billion people to the region’s urban areas (ESCAP, 2015). Of

the 28 megacities (cities with more than 10 million people) worldwide, 17 are in the region, and 60 per cent of the increase in the world's urban population between 2000 and 2030 is taking place in the region as well. Mobilizing adequate resources to meet infrastructure needs and providing basic public services and housing for the expanding urban population will be no small task for central and local governments in the region.¹⁶

The benefits of urbanization to economic development are well known (World Bank, 2009; Yusuf, 2013; Glaeser and Joshi-Ghani, 2015; Ahluwalia, Kanbur and Mohanty, 2014; ESCAP, 2015). Agglomeration effects allow firms to capture economies of scale, more exchange of ideas increases labour productivity and innovation, access to a larger and more specialized labour market helps relax supply constraints and increases productivity, and a more advanced infrastructure and education system leads to productivity increases. The Asia-Pacific region has done particularly well in capturing the benefits of urbanization. In a ranking of Global cities according to their competitiveness, 13 of the top 50 are in the Asia and the Pacific (A.T. Kearney, 2010).¹⁷ As shown in table 2.1, it is not uncommon for individual metropolitan areas to account for a disproportionate share of national gross domestic product (GDP) in the Asia-Pacific.

Table 2.1
National population and GDP shares of metropolitan areas in the Asia-Pacific region

Metropolitan area	Population (millions)	Percentage of national population	Percentage of national GDP
Bangkok	10.1	12.6	29.1
Jakarta	10.2	11	16
Manila	11.5	10	37.2
Beijing	21.1	2	3.43
Mumbai	20.7	2	6.16
Istanbul	14.3	19	27
Karachi	15	8	14
Colombo	5.6	27	40
Yangon	4.35	8	23
Dhaka	17	11	35
Hanoi	7.7	9	12.6
Kathmandu	5	18	33

Source: drawn from various sources.

¹⁶ Most of this increase is in China and India, but significant urbanization is also taking place elsewhere in the region.

¹⁷ The rankings are based on five factors: business activity, human capital, information exchange, cultural experience, and political engagement.

Providing public services in cities with populations of 5 million to 20 million in low- and middle-income countries poses great challenges, which are exacerbated by inadequate infrastructure, insufficient housing stock and large concentrations of poor families. Continued in-migration together with a large backlog of unmet needs suggests that incremental changes to the national system of fiscal decentralization or taxation will not resolve the public financing problems of large urban areas.

It almost certainly costs more to meet the demand for public services in large metropolitan areas because of higher factor costs (labour, land), transportation costs, water supply provision and because of cost duplication in metropolitan areas where many municipalities provide the same services.¹⁸ Metropolitan areas also require special public services to accommodate their large populations and more dense living conditions. This might include a larger and more complicated road network, and mass transit to reduce congestion. More dense living conditions and urban poverty may require heavier outlays on sanitation, security, firefighting,¹⁹ and the like. The metropolitan population, with better education and higher income, generates greater demand for high quality of public infrastructure and services, including better education, healthcare and better amenities, such as recreation, a cleaner environment and open space.

Keeping up with infrastructure investment needs is perhaps the major financial challenge facing metropolitan cities. Ingram, Liu and Brandt (2013) estimate, with an income driven model, that developing countries will require an annual amount of about 2.8 per cent of GDP for new infrastructure investment in urban areas, and an additional 2 per cent of GDP for maintenance. If these projections are only approximately correct, they are well beyond the reach of most developing countries where total central and local taxes average about 16-17 per cent of GDP and have not increased greatly in the past four decades (Bahl, 2014; see also Yoshino and Morgan, 2017). Individual country studies also paint a bleak picture of the prospects for covering the infrastructure gap. Estimates for India are that new investment in urban infrastructure will rise only to about 1.14 per cent of GDP over the next 30 years (Ahluwalia, Kanbur and Mohanty, 2014).

Slum improvement is another major challenge confronting Asian countries. It focuses on three activities: investment in infrastructure and public service amenities, improvement of shelter, and security of land tenure. The two latter activities are multi-government tasks, necessarily led by central Governments. The improvement of local public services may fall in large part to the metropolitan local governments, depending on

¹⁸ To some extent, these higher costs will be relieved by capturing economies of scale and density.

¹⁹ Special equipment to deal with tall buildings for instance.

expenditure assignment, but in general is almost always well beyond the limits of their present access to finance. For example, over half of the population of Mumbai lives in slums with little access to clean water or sanitation. Most do not have access to health and education. Rao (2009) and Bandyopadhyay and Rao (2009) cite statistics that underline the magnitude of the problem: just 78 per cent of people living in slums use tap water; only 37 per cent use communal toilet facilities and 24 per cent walked 0.2-0.5 km to latrine facilities; there is little by way of solid waste disposal; and only 84 per cent of slums had approach roads suitable for motor vehicles.

While there is a general perception that large cities in Asia and the Pacific are incurring chronic deficits because of high investment needs for urban development, overborrowing and inadequate revenues, it is not an easy task to accurately evaluate the fiscal health of a city and estimate the actual financing gap.²⁰ In addition to the problem of data shortage, defining fiscal health itself is especially difficult. The accounting definition of fiscal condition focuses on budget balance. On the surface, this seems straightforward: Does the city government raise enough revenue from its regular sources to cover the amount it spends? But this straightforward definition can give a misleading picture. There may in fact be a budget deficit that is covered by irregular transfers from higher-level government (bailouts), deferred payment to creditors or to public pension funds, or short term borrowing from banks. All of this might be effectively hidden in the accounts and so it is difficult to get meaningful results from accounting statements of financial condition.

More importantly, a balanced budget does not give information about the quality of public services delivered, or about whether present levels of tax burdens are sustainable. A straightforward comparison of total expenditures and total revenues of Asian cities may show large financial surpluses, as for example, in Manila and Jakarta. But in fact, neither city spends their full budgeted amounts for various reasons, including that intergovernmental transfers are received too late in the fiscal year to be fully spent, the local governments do not have the capacity to spend the full amounts of revenue available, capital projects are delayed, and so on. It is risky to draw conclusions about fiscal health from these surpluses.

On the bright side, metropolitan city areas have a greater taxable capacity than the rest of the country, and this tax base has been growing. If metropolitan area local governments effectively tap the revenue potential in big cities, they can significantly narrow the revealed and hidden city financing gaps in the Asia-Pacific region. Most big cities in the region have

²⁰ In many countries, particularly in South Asia, there are no reliable data on metropolitan revenues.

yet to secure access to broad tax bases (table 2.2) and have remained highly dependent on transfers from the central (or state/provincial) government. In fact, the major local government revenue source in Mumbai – the tax on the entry of goods into a local area for consumption, use or sale (Octroi) – was recently abolished in favour of a new national tax on goods and services, and the major revenue entitlement of local governments in China has been folded into the central value added tax.

Table 2.2
Revenue bases of local governments in selected metropolitan areas of Asia-Pacific countries

City/ metropolitan area	Power to Levy a broad based, local non-property tax	Major revenue source	Comments
Mumbai	No, see comments	Transfers	Until 2017, Octroi was the principal revenue source. Octroi, a terminal tax, was known for its distortive effects on trade.
Beijing	No (see comment)	Transfers	Chinese cities have access to the national government tax base through shared tax transfers but cannot impose taxes or change rate or legal base.
Jakarta	No	Transfers	Does not participate fully in general revenue sharing, but can receive other transfers.
Manila	No	Local sources, including a turnover tax on certain local businesses	Poorest local governments in the metro are more dependent on transfers
Istanbul	No	Transfers	Very little local government taxing power
Ho Chi Minh City	No (see comment)	Transfers	Viet Nam cities have access to the national government tax base through shared tax transfers and conditional grants
Bangkok (BMA)	No	Transfers	Local governments have access only to minor taxes
Karachi	No	Transfers	Major local government revenue source is property tax
Kolkata	No	Transfers/own source	Approximately equal shares of financing from own source and transfers.

Increasing the rate of revenue mobilization by metropolitan cities is not an easy fix. Resolving the financing gap requires settling on the right degree of fiscal decentralization within the metropolitan area, finding a way to coordinate the work of many different government agencies, upgrading the quality of the local government staff, and developing a viable plan for resource mobilization. Things are much more complicated than simply finding the money.

Still, the growing tax base in metropolitan cities is underused and the timing for metropolitan fiscal reform in the Asia-Pacific region may be good. The heavy investment needed to maintain a competitive infrastructure and an adequate quality of public services will also lead to an automatic increase in the potential property and consumption tax bases that can be captured by the right kind of revenue mobilization system. If the commercial and industrial sectors remain competitive, and if the middle class emerges, and if the quality of services improves, there may be an increased willingness to pay for local services.

3. Directions for reform in Asia and the Pacific: towards a metropolitan fiscal strategy

How can countries effectively capture the revenue opportunities generated by urbanization and meet the urban financing demand? Developing countries in the Asia-Pacific region have conducted useful policy experiments and taken important fiscal reform initiatives to achieve this objective. Some have arranged new government structures and have made sweeping changes in expenditure assignments (Indonesia); some have encouraged increased revenue mobilization by urban local governments (the Philippines); some have relaxed debt finance restrictions; some have created new, targeted grant programmes for large cities (India); some have resorted to the sales of land to support spending needs (China); and some have begun to rely on capturing part of the land value increases that have come with urbanization.

Despite the progress made, these reforms were carried out in an ad hoc or piecemeal way and the revenue they have generated falls far short of what is needed to sustain the region's fast urban expansion in the coming years. Of the country reform programmes in intergovernmental fiscal relations reviewed in table 2.3, none has put in place significant new taxing powers for metropolitan local governments.²¹ Developing countries in the Asia-Pacific region need a well-conceived overarching metropolitan fiscal strategy aligned with a national urban development strategy. It is a difficult challenge to accomplish within the existing economic and political constraints, and most have not even attempted this.

How might the policy advocacy for increased revenue mobilization by metropolitan local governments be stimulated? One possibility is for government to form a metropolitan fiscal strategy that can accommodate the delivery of appropriate local government services in the entire labour market area. This approach respects jurisdiction boundaries (if applicable), while enabling local governments to implement effective coordination

²¹ All, however, are empowered to levy some form of tax on real property.

Table 2.3
Major intergovernmental fiscal reforms in recent years: selected metropolitan areas

Metropolitan area	Reform	Implications for local non-property tax revenue
Manila	Reform of local government code in 1991 devolved tax and expenditure responsibilities and powers	The only broad-based taxing power devolved to cities is the local business tax.
Jakarta	“Big Bang” decentralization of expenditure responsibilities in 2001	No provision for strengthened local revenue raising powers
Beijing	Various reforms to intergovernmental fiscal system including elimination of the “local business tax”	Share of value added tax (VAT) earmarked for local governments has increased, land revenue rationalized, no independent revenue raising powers.
Mumbai	Constitutional Amendment of 1974 defining the powers of local government; State Finance Commission initiatives recommending strengthened local revenue bases.	State governments have resisted movement to implement the constitutional amendment. No strengthening of local revenue powers. Octroi, the major local government own revenue source, has been abolished.
Ho Chi Minh City, Hanoi	2002-2004 budget law, increasing the autonomy of local governments	No significant increase in local government revenue raising powers
Bangkok	2001 amendment to decentralize responsibility for expenditures, and to guarantee adequate revenues.	No initiative to increase local government revenue raising powers.

mechanisms to provide services. The metropolitan fiscal strategy could include local financing to cover at least the local benefit services provided in the metropolitan area. Two general features are essential for such a strategy to succeed. First, it must accommodate the special needs of metropolitan local governments in delivering public infrastructure and services and create necessary policy space for metropolitan local governments to leverage their stronger capacities in revenue mobilization. Second, the strategy must fully recognize the interactions between revenue assignment, expenditure assignment and the structure of metropolitan governance.

Such a metropolitan fiscal strategy could be implemented as part of a broader fiscal decentralization reform. In theory, there are several advantages of empowering local governments to raise revenues. First, the standard of accountability of government officials is much higher when they must finance some public services with taxes on residents. The result of this accountability may be a better quality of public services, a package of services that fits local preferences, and a greater willingness to pay.

Another potential gain from local government autonomy is an increase in the overall rate of revenue mobilization, reflecting both the presumably greater willingness to pay for services that are more in tune with local preferences and in some instances, perhaps, by the potential comparative advantage of subnational governments in collecting certain taxes. Although the amounts involved may not be large, the potential revenue gain from decentralized taxation may nonetheless be significant for developing countries where the average ratio of tax to GDP is low (Bahl and Bird, 2008).

However, in many countries in the Asia-Pacific region, higher-level governments may be dug in against relinquishing fiscal powers to local governments. Higher-level government officials often prefer to shape local government priorities according to central (or state) government objectives. There is also fear that giving the large local governments access to a broad-based tax will crowd out some central/state government taxes and diminish the size of the revenue sharing pool.

On the other hand, this firmly entrenched system of revenue centralization in Asia and the Pacific may be overtaken by urbanization and by the sheer magnitude of metropolitan fiscal problems. Many countries in the region are characterized as making a low tax effort, and have found it difficult to overcome the obstacles to increased levels of taxation. Nevertheless, the demands for new urban services and additional infrastructure spending may become too much of a problem to ignore. At some point, the easier way to go may be to create a special fiscal regime for the large cities and to let them manage their own fiscal affairs.

A start toward special fiscal arrangements for metropolitan finance has been made in China where four large cities have provincial status,²² in the Republic of Korea where the metropolitan cities have provincial status, and in Indonesia and Thailand where Jakarta and Bangkok have been given provincial status, although these cities still do not have significant revenue autonomy.

There are many ways to enhance the revenue raising autonomy of metropolitan local governments. These might include the power to levy new taxes, the power to set tax rates and user charge rates, the power to control exemptions and preferential treatments, and the authority to impose a sur-rate on a national tax base. Incentives to use these powers could be embodied in a special regime that limits the flow of intergovernmental transfers to metropolitan local governments. This would

²² They are Beijing, Shanghai, Tianjin and Chongqing.

likely result in a higher “tax price” for residents and businesses in the metropolitan areas.²³

In many countries, a special fiscal regime that provides metropolitan areas with more fiscal autonomy is a difficult political sell. In India for instance, states are responsible for controlling metropolitan area local governments but have used that power to delay implementation of the 1974 constitutional amendment that provided a clear schedule of rights and duties of third tier local governments (McKinsey Global Institute, 2010; Rao and Bird, 2014). In unitary countries where local governments are usually governed by a central law, their position in the intergovernmental fiscal system is even less secure than in federal countries. While metropolitan local governments in unitary countries often have significant expenditure powers, as for example in the case of expenditure assignments in Indonesia (Smoke, 2013) and in China (Bahl, Goh and Qiao, 2014), neither of these two countries devolves any significant amount of revenue power.

4. Metropolitan fiscal strategy and the question of governance structure of metropolitan areas

The reform options for an efficient system of local government revenue mobilization in metropolitan areas will depend on the structure of government in the metropolitan area and the assignment of expenditure responsibilities. These are crucial considerations in designing the structure of an enhanced revenue system for metropolitan local governments in the region. Since governance and expenditure assignment regimes will differ from city to city, so too will the best options for revenue mobilization.

The link between revenue mobilization and metropolitan government structure is especially confining. In a metropolitan area where there are numerous municipalities, there will be more factor mobility across jurisdiction boundaries, tax burdens will be exported and wide fiscal disparities may result. This will limit the possibility of developing efficient broad-based taxes in jurisdictionally fragmented metropolitan areas. By contrast, if the local government boundaries cover the entire metropolitan area, broad based taxes may be levied with less economic distortion because there is less possibility for one municipality to export the tax burden to another.

The link between efficient local revenue systems and expenditure assignment is an equally important consideration. To a large extent, the assignment of revenues to the local governments in an efficient system is

²³ This means that residents and businesses in metropolitan areas pay a higher level of taxes for public services received than residents and businesses in other local government areas.

driven by the functions for which local governments are responsible. For example, some functions are best financed by user charges, some by general taxes, some by intergovernmental transfers, and so on. The model is summarized in box 2.1. In a jurisdictionally fragmented system where there are significant differences in the taxable capacity of local governments, disparities in public service levels will emerge.

Box 2.1

Matching expenditure assignments with local revenue instruments

An efficient local government revenue system will reflect the services that it is assigned to deliver.

- For publicly provided goods and services, where the benefits accrue to individuals within a jurisdiction and where the exclusion principle can be applied in pricing, user charges are the most efficient financing instrument. This includes most public utilities.
- Other local government services, such as general local administration, traffic control, road maintenance, street lighting, security, primary schools, local clinics and parks and recreation are local public goods whose primary benefits accrue to the local population. They are most appropriately financed by taxes and licenses.
- For services in which substantial spillovers to neighbouring jurisdictions commonly occur – such as health, higher education, and certain types of infrastructure expenditures – provincial or national intergovernmental transfers should contribute to financing.
- Borrowing is an appropriate arrangement for financing capital outlays that have a long service life, such as public utilities or mass transit.

Source: Bahl and Linn, 1983.

Three basic approaches to metropolitan governance are *jurisdictional fragmentation*, which emphasizes home rule; *functional fragmentation*, which emphasizes technical efficiency; and *metropolitan government*, which emphasizes coordination and internalizing externalities (Bahl and Linn 1992). In practice, the advantages and disadvantages of these three forms of metropolitan governance play out in a compromise that attempts to capture the benefits of a favoured approach while minimizing some of its costs. The result, almost always, is a mixed model of metropolitan governance.²⁴ The pros and cons of the different arrangements are summarized in table 2.4. There is no one pattern of metropolitan governance that is generally followed in Asia.

²⁴ This classification is useful because it allows a focus on the kinds of governance trade-offs that can be made, and it lends itself well to a focus on less developed countries. But it does oversimplify, as would any taxonomy. For less simplified, but very useful classifications, see OECD (2006) and Shah (2013).

Table 2.4
Alternative metropolitan government structures, with examples from Asia and the Pacific

Government structure	Emphasis	Advantages	Disadvantages	Examples
Jurisdictional fragmentation	Home rule	Voters have more control over services delivered and tax levels	Does not deal effectively with spillover effects; coordination is difficult; and large fiscal disparities can result	Manila, Kolkata, Karachi
Functional fragmentation	Technical efficiency	Professional management; can capture economies of scale; may have access to a dedicated revenue stream	Less directly accountable to local voters; coordination with other services can be difficult	Mumbai
Metropolitan government	Coordination of service delivery, technical efficiency	External costs can be internalized; economies of scale can be captured; broad based taxes are more feasible; fiscal disparities can be eliminated	Government decisions are more distant from local voters; intergovernmental conflicts with lower tier neighbourhood governments; diseconomies of scale	Jakarta, Beijing, Bangkok

Jurisdictional fragmentation

Under a jurisdictional fragmentation approach, many general-purpose local governments (municipalities) operate in the same metropolitan area with some degree of independence in choosing their package of public services and their tax, user charge, and debt financing arrangements. In many cases, there also is an overlying metropolitan government of some sort, or a region-wide special district, or a mechanism for cooperative agreements, but the emphasis in service delivery usually is on the role of the underlying cities and municipalities.

The advantage of the jurisdictional fragmentation model is that it keeps government functions close to the people. Because the population of the fiscal decision-making unit is smaller, the local government bureaucracy is less intense and local politicians are more accountable to a constituency to whom they are known. Residents are more likely to get the package of services that they want under a fragmented government arrangement. This also means that local governments in the metropolitan area can compete for residents and businesses with the package of public services and taxes that they offer.

The advantages of this home rule model will come at some cost: a failure to capture economies of scale, and operating within a set of boundaries that are too small to internalize important external effects or to allow coordinated service delivery. Jurisdictional fragmentation also can lead to large fiscal disparities among local governments in the metropolitan area, since constituent local governments almost surely will have different expenditure needs and different financing and service delivery capacity. The unit cost of service delivery may be higher because of so much duplication of administrative services, and because of the failure to capture economies of scale. Finally, the jurisdictional fragmentation model leads to some confusion about accountability. Metropolitan residents may live in municipality A, work in municipality B, and shop in municipality C, and may be uncertain about who to hold responsible for the quality of public services provided.

The jurisdictional fragmentation model is the choice for governing metropolitan areas in many low-income and middle-income countries, including some in the Asia-Pacific region. The sixteen cities and one municipality in metropolitan Manila are responsible for those services whose benefits are thought to be contained within local boundaries (World Bank, 2017; Manasan, 2009, p. 338; Diokno, 2009). Each is entitled to levy a property tax and a local sales tax, and they are self-governed. The Metropolitan Manila Development Authority (MMDA) was established to coordinate urban policy and service delivery, but has neither the political authority nor the resources needed to fulfil its statutory mandate. The result has been a long-standing situation of political gridlock that prevents any effective action to implement coordinated metropolitan-wide solutions to such critical issues as traffic management, flood control and pollution (World Bank, 2017).

The local government units in metropolitan Manila (cities and municipalities) are governed by elected councils, while the chair of the MMDA is appointed by the President, and its membership is prescribed by law to include mayors of the constituent local governments. The MMDA has no revenue raising authority. These institutional arrangements have significantly compromised the coordination objectives of the MMDA (Smoke, 2013).

The Kolkata metropolitan area is governed by three municipal corporations (including Kolkata), thirty-eight municipalities, and twenty-four rural local governments. The municipal governments are dominant in terms of service provision and revenue raising (Sridhar and Bandyopadhyay, 2007). The Kolkata Municipal Corporation covers 20 per cent of the land area of the metropolitan area but accounts for 37 per cent of the population. The Kolkata Metropolitan Development Authority (KMDA) has the responsibility for planning and carrying out major infrastructure

development in the metropolitan area. The KMDA is a state agency, though some elected local representatives are on its board. It is financed by grants from the federal and state governments. The Kolkata metropolitan council is like that in Manila, but seems to have more buy-in from the municipal governments and the state government. The appointed Chief Minister of the State chairs the committee, and there is provision for coordination between state government ministries and the metropolitan government. It is required that all municipal development plans coordinate with the metropolitan development plan.

The Karachi Metropolitan Corporation is underlaid by six municipal district corporations. Each level has service delivery responsibility but expenditure assignments are unclear and there is no effective provision for coordination. The autonomy of local governments is limited by provincial controls including the approval of local budgets and the appointment of chief local officers. In addition, provincial government agencies deliver services within the metropolitan area, and carry out regional planning, which further complicates the coordination of service delivery. Most local government services are financed by intergovernmental transfers from the provincial government.

Functional fragmentation

Under the functional fragmentation approach, the delivery of a single function (or a related grouping of functions) is placed under the control of either a public company or a special district government. In fact, some degree of functional fragmentation exists in almost all metropolitan areas, including those with many municipal governments, but the arrangements vary widely, as does the degree of emphasis placed on the use of public companies and special districts. Public companies can exist side by side with either a fragmented local government arrangement or an area-wide metropolitan government.

A main advantage of functional fragmentation is that an autonomous agency or a public company is likely to be more technically efficient than a local or higher-level government because it is specialized, it may be able to attract and retain higher-quality management and staff, and it serves a large enough population to capture economies of scale. Because it is usually the only entity in the urban area responsible for the function, the problems of coordination for that function are considerably less than under a jurisdictionally fragmented model. Finally, a public company or a special district government may have access to a dedicated revenue stream (such as an earmarked tax, a share of the budget of a higher-level government, a compulsory transfer from the city government, or user charges), and if well run, it has greater potential for debt finance than do many general-purpose local governments.

The major drawback to this approach is that public companies and even special districts are less directly accountable to local voters than elected municipal councils are. This depends on how the board and the management of the autonomous agency are determined, and here the practice varies widely.

Special districts play an important role in financing services in the metropolitan areas of low- and middle-income Asian countries. An autonomous agency of the Mumbai municipal corporation is responsible for electricity and bus services and has shown good management successes. India also makes use of parastatals, which are public companies operated by various departments of the state (or federal) government. The 21 parastatals operating within Mumbai account for a large share of total infrastructure spending in the metropolitan area. Some of these parastatals route their funds through various metropolitan agencies, and in such cases coordination problems in service delivery are made more manageable (Pethe, 2013). A similar situation characterizes the Karachi metropolitan area where provincial agencies are responsible for several services including water and sewer and solid waste management, and for master planning.

Metropolitan government

Under the metropolitan government model, most general services and infrastructure services are provided by an area-wide local government.²⁵ In practice, area-wide governments often share fiscal powers with lower tiers of government or publicly owned companies. This gives local governments some sense of home rule, even though most power is vested in the overlying metropolitan area government.

There are several versions of area-wide governance. One is the large city that includes most of the urban population in its boundaries (such as Beijing and Jakarta). Another is the large city that dominates public services provided in the metropolitan region but does not include all municipalities that are within the labour market area (such as Mumbai). Yet another version of area-wide governance is an appointed agency usually charged with planning and coordination responsibilities, often for capital facilities. In some cases, these metropolitan authorities have responsibility to deliver region-level services, as in the case of Manila.

The significant advantages of the metropolitan government approach are the internalizing of spillover effects, the built-in coordination in the delivery of functions, the better opportunity for capturing economies of

²⁵ For discussions of metropolitan-area governance, see Bahl and Linn (1992), Bird and Slack (2004), Jouve and Lefèvre (2002), OECD (2006), Slack (2007) and Bahl (2013).

scale, and the possibility for accessing a broad tax base in an efficient way. This gives a potential for better resource allocation compared with dividing responsibility for local services among several municipalities and special-purpose governments. The metropolitan government form also offers greater potential for equalization because the quality of local services is not tied to the wealth of each local jurisdiction, as it is with jurisdictional fragmentation. To some, the area-wide approach of governance has so much upside that it is a hard recommendation for governance in big cities (McKinsey Global Institute, 2010).

On the other hand, the metropolitan form of governance diminishes the power of local voters to influence their budget. In effect, the election of the local council is replaced by election of local representatives to the more distant metropolitan council. A second drawback is that metropolitan governance often brings intergovernmental conflict. If lower-tier local governments exist under a metropolitan arrangement, they may resist the leadership (and especially the dominance) of the metropolitan government.

The boundaries of the metropolitan government may not be large enough to fully capture the benefits of area-wide governance. This problem might be resolved by annexations or consolidations or by appointing a commission to redraw jurisdictional boundaries, as was done in South Africa (Ahmad, 2003). Often these changes are politically difficult to accomplish, and outgrown boundaries stay in place. A particularly challenging problem with boundaries is the case of Beijing, where the integrated urban area can be seen as including parts of adjacent Hubei Province and Tianjin Municipality, which could lead to the creation of a super metro area with a population of more than 50 million.

There are numerous examples of metropolitan governance in low-income and middle-income countries in the Asia-Pacific region. Four of China's large cities have provincial status and are empowered to manage the fiscal affairs of their underlying district governments. These four Chinese cities have no taxing powers but are responsible for the provision of most public services (box 2.2). The five largest cities in Viet Nam have provincial status and some discretionary expenditure, but local budgets are approved by the next higher level of government and subnational governments have very limited taxing powers. Istanbul is a special case because the metropolitan area includes both a provincial administration with an appointed leadership, and a metropolitan municipality with an elected leadership. The metropolitan municipality performs most of the major urban functions and the provincial administration performs some area-wide functions and oversees coordination. Beneath the metropolitan municipality are 73 local-level municipalities that perform mostly neighbourhood functions. The result in Istanbul is a centralized system

with most fiscal decision-making at either the metropolitan municipality or the provincial administration level (OECD, 2008a).

Bangkok is a single tier provincial city whose governance extends to the entire metropolitan area. It overlays 18 districts, each of which has a directly elected local council. Local government budget decisions are limited by central mandates and controls, and Bangkok has relatively little revenue raising power.

Box 2.2

China's system of subnational government revenues

In most countries of the world, the dividing line between a local tax and an intergovernmental transfer is whether the local government has some discretionary power to determine revenue by setting the tax rate or tax base (Bird, 1999). In China, revenues to local governments come from three different sources.

Shared taxes are returned to local provincial governments in some proportion to where they are collected. The rate and base is set by the central government, and may be changed only by the central government. Most of these taxes are collected by the central tax bureau, though the business tax (recently phased out) was collected by the local tax bureau. The tradition in China is to refer to these as 'local taxes', but the international terminology refers to them as 'intergovernmental transfers'.

Conditional and unconditional grants are made to provincial governments and are referred to in China and internationally as 'intergovernmental transfers'.

Non-tax revenues and user charges give subnational governments some discretion in determining the amount of revenue raised, and the amount of cost recovery.

5. Financing metropolitan development: revenue options and reforms

The call to strengthen the financial condition of metropolitan local governments has been given for a long time (Bahl and Linn, 1992). Few have taken up the call, however, primarily because of some combination of resistance by higher-level governments and weak administrative capacity at the local level.

Property and land taxes

Reform recommendations for urban government finance in low-income and middle-income countries almost always centre on an upgrading of the property tax. Large cities have a comparative advantage in levying a successful property tax (McCluskey and Franzsen, 2013). The tax base is

stronger because property values are high and continuing to rise, and because the tax administration system has improved, and metropolitan areas have demonstrated an ability to absorb new technologies. External donors continue to invest significant resources in strengthening the capacity of local governments to levy the tax. Moreover, the property tax has some features of a benefit levy and there could be more willingness to pay because public services tend to be better in metropolitan areas.

Yet, property tax revenues account (on average) for less than 1 per cent of GDP and less than 4 per cent of all tax revenues in developing countries. Even in the large metropolitan areas where property values have risen dramatically, land and property taxes sometimes do not carry a commensurate load in financing urban government services.

There does not appear to be a groundswell of popular support to emphasize property tax financing of local government services. Taxpayers and their elected officials seem to be of one mind about not liking this tax, and their reasons are understandable. The amount of tax paid is known to the property owner (as compared to the value added tax (VAT) for example), giving the owner a more realistic feel for the burden and for the public services that might be provided in return. Taxpayers often feel that they pay more in taxes and charges than they get back in services, and elected government officials do not want to raise expectations about public service levels. Both groups probably are happier when actual tax liabilities are less transparent (as in the case of sales taxes). The bad reputation of the property tax also comes from the notional definition of the taxed base and the judgmental nature of the assessment – “how much would your house sell for if you sold it” or “what is the normal rent that might be paid for the flat that you occupy”. Finally, the property tax is levied against unrealized increases in the (housing) wealth of a taxpayer who may perceive no increase in his or her capacity to pay. These are some of the reasons why local governments in Asia often do not fully use their taxing powers.

Some Latin American countries have all but given up on the property tax, and moved on to subnational government sales taxes (box 2.3). Is it time for Asian countries to do the same? Is it better to live with the harmful economic distortions that come with a local sales tax to capture its revenue potential? Or should countries in the Asia-Pacific region continue to work on the property tax in hopes of finding the breakthrough reform that will make it efficient, revenue productive, and more acceptable to taxpayers?

The recommendation here is to stick with the property tax, but to pair it with at least one other broad-based, revenue productive local tax. The property tax has too many desirable features to be abandoned. It can approximate a benefit levy for some local services, is not regressive in its distribution of burdens, has less harmful distortive effects than

consumption taxes, has significant revenue potential, and cost-effective administration is within reach. Moreover, it is available to local governments and the laws for its implementation are usually in place. Certainly, it cannot carry the entire financing load for metropolitan local governments, or even a majority of the financing, but it can make a much more significant revenue contribution than it does now.

Box 2.3

Subnational government sales taxes in Latin America

The metropolitan city of Buenos Aires has province status and derives over half of its tax revenues from a turnover tax levied on total sales revenues. The turnover tax levied in the metropolitan city of Bogota (Colombia) accounts for about 40 per cent of local tax revenues. The tax rate and tax base are set by local councils (within allowable limits) and administration is by the municipality. Other taxes on gross sales are limited to certain sectors. The service activity tax (ISS) in Brazil is a municipal government tax on local services, almost all of which is collected by the largest municipalities (Rezende and Garson, 2006). It is an important source of revenues for the third-tier subnational local governments and raises about twice as much revenue as the local property tax.

The best comparable data on the revenue yield of the property tax in developing and transition countries (IMF, various years) suggests an average yield equivalent to only about 0.6 per cent of GDP (Bahl and Martinez-Vazquez, 2008). At the same time property tax revenue often plays an important role in the budgets of some local governments (table 2.5). In the 36 largest cities in India, the property tax accounts for 28 per cent of own source revenue (Mathur, Thakur, and Rajadhyaksha, 2009). De Cesare (2012) reports a survey of 64 municipalities in Latin America that shows the property tax to account for an average of 24 per cent of local government tax revenue. This gives a different perspective on the issue, namely that the property tax in developing countries is an important part of the strategy for local government finance even if it is not an important part of the strategy for overall government revenue mobilization. Moreover, the revenue dependence on the property tax is even greater in many of the large cities.

Property tax structure in Asian metropolitan areas

Property tax practices vary greatly across metropolitan areas in Asia and the Pacific. Some countries tax rental values (India), some tax capital values (the Philippines), some are very liberal with exemptions (Pakistan), some focus their tax on land use (China), and some impose a very low rate (Indonesia). Even where countries tax the same base, they may assess it differently. For example, Manila and Jakarta both tax the capital value of

Table 2.5
Property tax revenue performance in selected metropolitan cities

City/metro	Per cent of total city revenue (2010)	Per cent of local tax revenue (2010)
Belo Horizonte (Brazil)	No data	31.2
Cape Town (South Africa)	20.5	41.1
Rio de Janeiro (Brazil)	17.5	25.0
Hong Kong, China	3.78	5.10
Kuala Lumpur	44.9	93.0
Makati City (Manila)	34.0	41.0
Manila City	28.0	54.0
Quezon City	21.0	33.0
Delhi	30.1 (2007)	18.1 (2007)
Kolkata	46.0 (2007)	27.4 (2007)

Source: McCluskey and Franzsen (2013); Mathur, Thakur, and Rajadhyasksha (2009).

property, but Manila uses comparative sales to tax land and depreciated replacement cost to tax buildings while Jakarta uses formula tables for both land and buildings.

This means that there is not likely to be a single reform solution that will fit all the cases. Moreover, because there are so many key components to the tax (for example, identification and valuation of properties, collections, tax rates and exemptions), reforms must necessarily focus on details. This is not to say that there are not common problems that plague city governments in most urban areas and that keep the property tax from reaching its potential. In fact, most metropolitan areas fail to administer the tax efficiently. They do not assess property as the law requires, they do not include all properties in the tax base, and they do not collect full property tax liability. The following cases of big city practices in Asia gives some indication of the way these problems hold back property tax revenue mobilization.

The property tax in the Mumbai municipal corporation is equivalent to about 1.4 per cent of local GDP, which is relatively high (the average for all urban governments in India is about one-fifth of this level). It accounts for about 22 per cent of all own local source revenues, and has a buoyancy of a little less than unity.²⁶ Yet Pethe (2013) notes that this is a disappointing outcome, because of the rapid increase in property values in Mumbai and the erratic revenue flow in recent years. The collection rate of the tax is only

²⁶ The revenue-income buoyancy of a tax is the average percentage increase in revenues for a 1 per cent increase in GDP. The buoyancy coefficient does not make adjustments for the revenue impacts of discretionary rate and base changes.

45 per cent, leaving much room for improvement. Surprisingly, the average collection rate for all large Indian cities is only 37 per cent (Mathur, Thakur and Rajadhyasksha, 2009).

The metropolitan cities in China do not levy an annual, value-based property tax. The State Council has proposed that such a tax should be implemented “when the time is right”. It is difficult to formulate such a tax because all land is owned by the Government, and because the infrastructure for property tax administration (assessment, tax rolls, collection mechanisms) must be put in place (Bahl, Goh and Qiao, 2014). China does impose taxes on real property, but these are mostly an ad hoc group of levies on land use and transfers rather than a property tax system with clearly defined objectives. Together, these taxes account for about 1.6 per cent of GDP, which is well above the average for low-income and middle-income countries (but below the average of industrial countries) (Man, 2011). The government continues to report that a property tax will soon be introduced.²⁷

Jakarta and Manila are interesting cases in the development of the property tax. The tax was devolved to local governments in Indonesia between 2011 and 2014, and early results suggest that the 30 largest urban governments, including Jakarta, account for about 70 per cent of revenue. In the Philippines, the local governments in metropolitan Manila account for 45 per cent of total national tax collections (as compared to 20 per cent of national population), but the property tax share of local revenues has been declining due to a failure to update the tax rolls and a rapid increase in intergovernmental transfers (McCluskey and Franzsen, 2013).

The success with the property tax as a local government revenue source is due largely to how well local governments assess and collect the tax. While there is a great deal of variation in this, and accurate data are hard to come by, the results are generally not very good. Mathur, Thakur and Rajadhyasksha (2009) surveyed five large Indian cities and found the ratio of assessed to market value to vary in a range of 9-30 per cent. A study of Pakistan’s Punjab province, where Lahore is the largest city, suggests that property is undervalued at 45-80 per cent (Bahl, Cyan and Wallace, 2015). There are success stories, including Quezon City in metropolitan Manila, where property tax collection increased threefold between 2005 and 2008 by computerizing tax rolls to make payments easier and eliminate corrupt middlemen (UN-Habitat, 2010). Bangalore, India revamped its assessment system to a simplified area basis with great success (Rao, 2008).

²⁷ At the close of the 19th National Congress of the Communist Party in October 2017, the Minister of Finance issued a strong statement about the government’s intention to implement a property tax.

Other cities in the region have been innovative in their practices, and this has shown up in improved revenue flows. Delhi, Chennai and Kuala Lumpur have used a self-declaration approach to identify properties for the tax roll and this has resulted in a significant increase in the coverage of the tax. University level courses in valuation have been introduced in Manila and Kuala Lumpur, and this has helped in establishing a permanent valuation staff in both cities.

The determinants of revenue performance

Property tax revenues amount to such a small percentage of GDP in low-income and middle-income countries in Asia and the Pacific in part because fiscal decentralization (the empowerment of local governments to make fiscal decisions) has not been a leading development strategy. Subnational governments account for about 28 per cent of total government expenditures in industrial countries but only 18 per cent in developing countries. Since the property tax is primarily a local government tax, it is used more sparingly in low income countries. In an econometric analysis of the variations in the property tax share of GDP across 70 developed and developing countries, Bahl and Martinez-Vazquez (2008) found that higher levels of decentralization increased the reliance on property taxation.

Other barriers to increased revenue mobilization are important. The administration of the tax is costly. The absence of a full and up-to-date survey of all land (urban and rural), records of title that enable a completion of the tax roll and a determination of tax liability, reliable data on the sales price of properties, and good valuation expertise are expensive problems to fix. At current yields of the property tax, it is difficult to justify such outlays, even in metropolitan cities. The result is that most developing countries improve their administrations with marginal upgrades rather than with comprehensive reforms. Revenue increases, it follows, are also marginal.

The weak revenue performance in Asian countries is also due to the social engineering of the property tax, and to the political rent-seeking that dramatically narrows the base. Government-owned property is exempt in most places, owner-occupiers pay less property tax than other owners, low income families (and sometimes all families) benefit from a threshold exemption, and the non-profit sector tends to be favoured with a tax preference. The revenue consequences can be substantial. A study of Punjab province in Pakistan estimates that bringing owner-occupied property fully into the tax base would triple the level of property tax revenues (Bahl, Cyan and Wallace 2015).

Sometimes local government property tax revenues are low because policy and administration are in the hands of central (or state/provincial) governments that are not very interested in the amount of revenue raised for local governments. The story is an old one. Politicians at the central government level do not have adequate incentives to increase property taxes that benefit urban local government budgets. For example, in Indonesia the property tax and property transfer tax were shared responsibilities between the central and subnational governments until 2009 when they were devolved. Before that time, when policy and administration were centralized, revenue growth was almost flat. The implementation of the devolution includes both policy and administration and is focused on empowering local governments to adapt their property tax structures and property tax administration systems to the local environment. While the early results are somewhat promising in terms of revenue mobilization, local governments have been slow to move their property tax towards its full potential. The property tax takes time to implement, and it is still too early to make a full evaluation (Kelly, 2014; Haldenwang et al., 2015).

The weak performance of the property tax may indicate other sources of subnational government tax revenues are available and that they are preferred to the property tax. In Argentina, sales taxes (primarily the turnover tax) account for about two-thirds of subnational government tax revenue while the property tax accounts for only about 12 per cent. In Brazil, the local sales tax raises two times more revenue than does the property tax. Colombia's larger cities raise more from the gross receipts sales tax) than from the property tax. In Mumbai the property tax is 24 per cent of local government revenue but the octroi (a form of sales tax on the entry of goods) was 44 per cent before it was abolished in 2017, and the revenue elasticity of the octroi was significantly larger (Pethe, 2013). In China, central and subnational governments (until recently) raised significant revenues from a gross receipts tax that was earmarked fully for subnational governments, but a broad-based annual property tax is yet to be authorized

The property tax also is crowded out by intergovernmental transfers in all metropolitan cities. More grants (or more direct expenditures by the metropolitan government in the metropolitan area) can dissuade local voters and politicians from increasing statutory tax rates, assessment rates or collection rates of the property tax.

Finally, the revenue take from the property tax has been slowed by the actions of higher-level governments and by the legal framework that has been put in place. Rent control legislation has all but wrecked the property tax in some Indian cities, rate limits imposed by higher-level governments can lead to lower revenues (Manila and Kuala Lumpur), and

legislation to exempt government-owned property has eroded the tax base (Hong Kong, China).²⁸

The special problem of revaluation

Periodic revaluation and the introduction of a new property tax roll is perhaps the greatest barrier to maintaining the rate of revenue mobilization of the property tax. The base is determined by an appraisal process that must be redone periodically (every three or five years). So, instead of the relatively smooth increases (or decreases) in the income or VAT base, large one-time increases are likely to accompany revaluation. Moreover, preparing the new values is a costly and time-consuming affair and putting the new roll in place is contentious and often becomes a media event.

In some urban areas, including Hong Kong, China and Jakarta, revaluations are carried out annually, but typically tax rolls are redone on a 3-5 year cycle. Not surprisingly, metropolitan local governments implement new valuation rolls with a delay out of fear of voter reactions to large increases in property tax bills. Sometimes, politicians try and minimize their exposure to such situations by giving a simultaneous reduction in the statutory rate, or capping the increase in taxable assessed values. Some metropolitan local governments have indexed their assessments between revaluation periods, but this raises equity problems when property values grow at different rates in different sectors and in different neighbourhoods. Some cities in metropolitan Manila have made arbitrary adjustments by revaluing land but holding constant the value of buildings. The failure to revalue can impose a significant revenue cost. Had Punjab Province, Pakistan brought in its newly completed valuation roll in 2006, property tax revenues would have doubled (Bahl, Cyan and Wallace, 2011).

Taxes on property transfers

Nearly all Asian countries tax transfers of ownership, specifically, a tax is imposed on the sales price of properties that is paid at the time of exchange. This may be levied as a stamp duty on the transfer document and/or as a separate property transfer tax, or even as a capital gains tax.

There are several reasons why real estate transfer taxes have found their way into tax systems in developing countries, and why their staying power is so great. (Bahl, 2004; Alm, Annez and Modi, 2004). First, it is an easy tax handle because most buyers/sellers desire a legal record of ownership and therefore will voluntarily comply. Second is the revenue

²⁸ In India, the Constitution does not give separate taxing powers to local governments. The State governments assign the taxing powers and all discretionary changes in the base and rates have to be approved by the State governments.

motivation and what might appear to be a very low cost of collection. In more than a few countries, the property transfer tax generates as much revenue as the annual property tax. Third, the distribution of the tax burden tends to be progressive. Fourth, the number of people paying real estate transfer taxes in any given year is much smaller than the population paying general taxes, hence lessening voter opposition. Fifth, a property transfer tax might reach that part of the taxable capacity (property wealth) that is not captured by most income tax and VAT. Finally, some governments have used the property transfer tax to try and cool down an overheated investment market in real property.

The disadvantages of the property transfer tax (and for a capital gains tax on real estate) are that it imposes a cost on property transactions thereby reducing the volume of formal transactions and slowing the development of the real estate market, and the administrative costs can be very high. In low-income and middle-income countries, the tax base often is determined by taxpayer declaration of the sales price. Because of the low probability of being detected as underreporting, and because the property transfer tax often is levied at a high nominal rate, property owners have a significant incentive to understate taxable value. This leads to a revenue loss, but it also leads to a weakening of the data base that is necessary for objective assessment of the annual property tax.

Three alternative paths to reform could enhance revenues and improve land market efficiency. The first is to abolish the property transfer tax and make up the revenue loss with increased levels of other taxes. The second reform direction retains the property transfer tax at significantly lower rates (where they are high), and aggressively monitors declared values for transactions. This might be done by requiring certified appraisals at the expense of buyers/sellers, upgrading and expanding the valuation staff at the local government level, and imposing significant penalties for under declaration. The third reform path is to replace the property transfer tax with a tax on capital gains from sales of real property. While there are some administrative obstacles to implementation, the problems are no more difficult to resolve than the problems that prevent the present sales tax on transfers from working. There has been some experience with capital gains taxes on property transfers, for example in Taiwan Province of China (Tsui, 2008).

*Value capture*²⁹

Urbanization and the projected rapid growth of large cities in Asia will bring significant increases in the demand for residential housing and in the

²⁹ Land value capture instruments are most developed in Latin America where practitioners and policy analysts have developed several workable approaches. For a good review of the practice, see Smolka (2013).

demand for land to be used for non-residential purposes. Real estate values also will be driven up as the constraints on urban development are relaxed (through zoning changes that allow development on the urban fringe) and by infrastructure investments that enhance the quality of public services. Projections of new infrastructure investments equivalent to 2.5 per cent of GDP per year gives some idea of the magnitudes involved (Ingram, Liu and Brandt, 2013). The potential revenue increase is significant.

These value increases are reflected to some extent in the annual property tax base and annual property tax revenues, but not very much because of revaluation lags and because of the low effective rates of the property tax in most Asian countries. Large urban governments in some countries, particularly those in Latin America, have now turned to using various other fiscal instruments to capture a portion of these land value increments to support the financing of public investments and public services. This process is generally referred to as “value capture”.

There is a strong case for the public sector to confiscate a part of the increment in land values that is a result of government actions. First, this approach is equitable in that it reclaims some of the benefits of government sector actions for the public. If an investment of \$10 million in a new road will increase property values in effected areas by \$20 million, why not at least recover the cost of the project from the beneficiaries? Since these land value increments are ‘unearned’ (the property owners did nothing to generate them), it seems a fair and even efficient approach to cost recovery.

A second important advantage is the generation of revenues to support the public budget. Several inventive schemes have been developed to use expected land value increases to fund the cost of public investments such as road improvements, large scale capital projects and general urban development (Smolka, 2013). Under the right circumstances, this can give the best of both worlds: the developer can move ahead with the project and the Government can avoid raising taxes to cover the cost of the infrastructure investment (box 2.4).

In the Asia-Pacific region, property values are growing with urbanization, and prospective public investments are large, so clearly there is potential for value capture. Nevertheless, Asian countries have a mixed record on using the property tax to generate revenues from changes in land use. For example, Bangkok and Karachi do not tax vacant or unused land, Jakarta taxes it at the same rate as developed land, though Bangalore, Kuala Lumpur and Manila tax it at a higher rate.

Land Sales and Leases

Another area where urban development and land value increments come together is in the sale or leasing of public land. The issue is of greatest

Box 2.4 Value capture

The practice of value capture is widely varied in terms of the fiscal instruments used, especially in Latin America where the approach is most advanced. These include betterment levies (special assessments on beneficiaries to recover the cost of a project), exactions (payment by developers to compensate government for a change in land use that will enhance values or incur costs), land adjustment (recovery from land owners of costs of expansion of urban settlements into the urban fringe), and certificates of additional construction bonds (development rights sold by auction to private firms).

The basic idea in these approaches is pretty much the same. The local government has a marketable product to sell, usually some combination of improved public services, land, development rights, building permits, increased floor area ratios, or zoning changes. The beneficiary (a developer or a property owner) pays for one or more of these products with a portion of the expected increase in land values. The fiscal arrangement through which the beneficiaries purchase the product is often determined by the nature of the project itself, whether it is a road improvement, a large scale urban redevelopment project, an increase in building heights, or the extension of public services to the urban fringe. Sometimes the government determines the value of the development rights, and in some case the values are determined in the market by auction. Special assessments are levied on beneficiaries to recover project costs and are distributed according to a formula determined by the government.

Source: Smolka (2013).

Note: The floor area ratio is the ratio of floor area to the net surface of the undeveloped land (where net surface is defined to exclude rights of way and environmental set asides).

importance where land is owned by the Government and land use rights are leased. Perhaps the most prominent example in recent times is the leasing of lands by Chinese local governments. On the one hand, this policy opened the door for financing a large amount of infrastructure that was necessary for the absorption of nearly half-billion migrants to cities. By 2013, it accounted for about one-third of subnational government revenues (inclusive of intergovernmental transfers), and 7 per cent of GDP. On the negative side, it also involved dispossessing farmers from urban fringe land with little compensation, a significant amount of the money leaked out to private sector activities, and the collateral of land fuelled over-borrowing and a debt crisis (Bahl, Goh and Qiao, 2014; World Bank and Development Research Center of the State Council, 2014). Moreover, the sustainability of the programme depends on the supply of land available and on fluctuations in the price of land. Though revenue dependence on land leases is down from its peak years, regulations on compensation levels and the practice of claiming land has been significantly strengthened.

Directions for property and land tax reform

There is no “one size fits all” for property tax reform, yet there are some basic principles to guide a revamping of property taxation that might fit most Asian cities. While it will not be a simple matter to make the property tax more productive, the following basic rules could significantly enhance the chances that a country will implement successful property tax reform.

1. Determine the primary role the property tax will play in national urban policy. It could be revenue mobilization, a tax on property wealth, a stimulus for more intensive use of land, an integral part of a fiscal decentralization strategy, or some combination of these. This will require a thorough analysis of the existing property tax and a plan for better aligning it with the reform objectives.
2. Find a champion. Not many politicians will want to play this part. Those who are strong advocates of fiscal decentralization will be more sympathetic to strengthening the property tax as a source of local government revenue. If the reforms are limited to metropolitan areas, and lower the dependence of big cities on intergovernmental transfers, there may be broader support for the reform proposals.
3. Do an audit of the legal underpinnings of the property tax – the constitution, the property tax laws, and the implementing regulations – to make sure that the definition and coverage of the tax base, and the tax rate structure, are clear.
4. Provide incentives to stimulate property tax revenue mobilization in metropolitan areas. The most powerful ways to do this are by giving metropolitan local governments discretion to increase property tax revenues and by reducing the availability of intergovernmental transfers.
5. Set an optimal division of property tax administration between higher and lower levels of government, based on comparative advantage in handling the maintenance and upgrading of the cadastre, property transfers and valuation. The weaker the local government capacity is, the stronger is the case to centralize such responsibilities, perhaps to a metropolitan tax administration.
6. Ensure the infrastructure for property tax administration is sufficient. Metropolitan governments should develop a system that generates and records accurate information on property transactions. Such information is essential to developing the value map that underlies a good assessment practice, and to using computerized mass appraisal. Replacing the property transfer tax with a capital gains tax on real property could

remove an impediment to accurate self-reporting of transaction amounts. However, until the basic data infrastructure is in place, it may be necessary to use more presumptive assessment schemes, such as area-based systems.

7. Ensure that metropolitan local governments are responsible for setting nominal rate structures and for exemption policy and review. A broad-based property tax may enhance equity. Low income housing could be exempt or assigned a lower burden, but the practice of exempting owner-occupied property, government property, and providing special exemptions should be rethought. At a minimum, all exemptions should be reviewed periodically, the tax expenditure implied should be recalculated and reported annually, and a sunset period should be set to review and reconsider every exemption.
8. Raise collection rates to increased revenues. Experience has shown that ease of compliance with the property tax can help improve collection efficiency. However, tougher enforcement and more realistic penalties are likely to be more effective in raising property tax efforts than are attempts to create a more 'friendly' property tax.
9. Most countries should concentrate their reform and revenue mobilization efforts on the big cities. The larger tax base is there, as is the better administrative machinery and the greater local public financing needs. Local governments of less densely populated and more rural areas are important, but the type of tax imposed is likely to be more rudimentary and these governments will in any case remain more dependent on central (or state/provincial) transfers.
10. Finally, change the focus of reform to the creation of a comprehensive system for taxing all land and real property. The base for the annual property tax, the transfer tax and value capture overlap – all tax property values — and could be administered by a single agency. However, each of the three taxes could be levied according to a different rate and base schedule. The result could increase the revenue yield from property taxes enough to justify significant increases in administrative expenditures.³⁰

³⁰ For a discussion of this possibility in the case of Pakistan, see Bahl, Cyan and Wallace (2011).

Consumption and production taxes

In those countries where fiscal decentralization is an objective, where the law permits, and where local government structure is compatible, it is possible for cities to adopt a broad-based consumption or production tax. This could lead to several favourable outcomes: increase the tax price of services provided in metropolitan areas; increase the overall level of resource mobilization; and reduce the claim of intergovernmental transfers on local governments.

But there are dangers in this strategy. Subnational government consumption taxes usually are levied as gross receipts (turnover) taxes, imposed at the point of sale, which can lead to distortions in resource allocation. Cascaded taxation can give advantage to vertically integrated companies, and enable the exporting of tax burdens. The “headquarters problem” arises when national firms pay tax for all branches at the headquarters location. This raises an interesting question. Do the efficiency gains from financing additional public services from autonomous local government taxes offset these efficiency costs of a gross receipts tax?

The experience with broad-based taxes on commerce in the Asia-Pacific region is much more limited than in Latin America. Until recently the Mumbai Municipal Corporation raised about half of its own source revenues from the octroi, an entry tax on goods entering the city. Collection was at octroi stations, was based on a complicated rate schedule, and had long been criticized for imposing heavy compliance and administrative costs, distorting the allocation of resources, and opening the door for significant corruption. Octroi was abolished in Pakistan more than a decade ago, and for all of India except Maharashtra State, but until 2017 it continued in Mumbai because it was thought that the revenue required to replace it “would be of unimaginable magnitude” (Pethe, 2013, p. 253). However, when the harmonised goods and service tax (GST) at the central and State levels was introduced in India, the octroi was abolished and replaced with a compensating grant from the State government. The details of this replacement are still being worked out, but appear to include a guaranteed rate of increase in the annual grant award.

In metropolitan Manila, a business tax on total sales is imposed by cities and municipalities at the point where the sales take place. This puts the 17 cities and municipalities in competition with one another for tax base, is distortive and leads to significant fiscal disparities across local governments. For example, in 2008, the average level of business tax revenues was equivalent to nearly 40 per cent of total local government expenditures in the metropolitan area. The per capita business tax revenue among local governments in metropolitan Manila ranged from \$169 to \$5 (Nasehi and Rangwala, 2011).

Another version of the assignment of general consumption taxes is the revenue sharing practiced in Asia, particularly in transition countries. For example, Viet Nam and China assign a share of the VAT to regional governments, with sharing on a derivation basis.³¹ However, the subnational governments have no authority to change the rate or base of the tax. In effect, these are intergovernmental transfers because the local governments can take no formal action to affect the revenue yield.³²

The Bangkok metropolitan government also is partly financed by a share of the VAT collected within its boundaries. Some metropolitan local governments in Asia, for example in Istanbul, Delhi and Jakarta, levy selective sales taxes on electricity bills.

Taxes on motor vehicles and motor vehicle use

There is a strong case for using the taxation of motor vehicles in the revenue structure of subnational governments (Bahl and Linn, 1992; Bird, 2010). The number of motor vehicles has been growing faster than population and roadway infrastructure in most large Asian cities. This trend is expected to continue as the middle-class population continues to grow. Between 2010 and 2030, the number of passenger vehicles in China, for instance, is projected to increase from 58 to 450 million and from 15 to 135 million in India (ESCAP, 2015).

There is much to be said about using motor vehicle taxes to finance a greater share of metropolitan local government expenditure. The ownership of motor vehicles is not concentrated in the lower income brackets. Driving generates negative externalities — congestion, air pollution and greenhouse gas emissions — which will grow worse as the number of private vehicles increases. Motor vehicles are easily taxed, as is their use.

The roadway construction and maintenance costs, traffic management costs, and the external pollution and congestion costs are likely to differ from place to place. In part, these costs will reflect choices that people make about where they live and work, and how they get around. They also reflect choices that businesses make about where they

³¹ A “derivation” basis means that the amount of revenue returned to the local government is in proportion to the amount collected.

³² The Chinese have abolished their local business tax, which was levied on gross receipts for a wide range of service activities. This levy was revenue productive (about 30 per cent of all subnational government tax revenues). The rate and base were determined by the central Government, but all of the revenues were retained by the provincial governments on a derivation basis. This tax is now folded into the central VAT, of which 50 per cent is being shared with provincial governments on a derivation basis (Bahl, Goh and Qiao, 2014).

will locate, and choices that governments make about the kind of public transport network that they are willing to provide. An efficient tax on the motor vehicle sector will bend some of these choices. The challenge will be to find a family of taxes on motor vehicle ownership and use that will raise significant revenue, improve resource allocation, and be administratively feasible. Almost certainly the rate for an efficient tax on motor vehicles will vary from one large city to the next.

Motor fuel taxes

From a revenue perspective, the tax on the vehicle sector with the most revenue potential is a fuel tax. The base of the tax (fuel consumption) can be income elastic because of the growth in the number of motor vehicles, but also will respond to changes in the price of petrol if levied on an ad valorem basis. While it is true that fuel taxes are related both to road usage and to such external effects of vehicles as accidents, pollution, and congestion, the relationships are usually too complex to capture in any precise way with a single tax (Newbery 2005).

The size of these external costs, and the likelihood that they will vary significantly within a country, supports the case for a locally imposed tax on motor fuels. The cost of road investment and maintenance, and the external costs of automobile ownership and use, is much higher in some urban areas than in others, and is likely to be highest in the larger urban areas.

Motor fuel taxes could be levied by either a metropolitan area government or by a transportation special district that covers the entire metropolitan area. It could be imposed as a piggyback on the central government tax on motor fuels with the metropolitan area government having some discretion in rate setting. Collection at the pump is the best option for tax administration, but the technology and the skills of the provincial/local administration may not be ready in some low-income countries, and fuel carrying can become a problem. An alternative is to impose differential provincial fuel taxes at the refinery or wholesale level, with the refiner or wholesaler acting as a collection agent for the states/provinces, and remitting taxes in accordance with the destination of fuel shipments.

In many low- and middle-income countries, motor fuel is already heavily taxed and the higher-level governments are unwilling to provide any revenue space to local governments. But this is not always the case. Provincial and local level motor fuel taxes in developing countries are imposed by subnational governments in only a few low-income and middle-income countries. Istanbul's "environmental sanitation tax" is imposed as a sales tax on gasoline. A differentially higher rate for motor

fuels under the state government VAT in Brazil is one example of a destination-based tax on motor fuels. Under Colombia's gross receipts tax, motor fuels are charged a rate of 1.38 per cent. A share of the central tax on motor fuels and motor vehicle transfers is a major source of own revenues for Jakarta.

Motor Vehicle Registration and Licenses

A charge for motor vehicle registration and licensing has the potential to yield a significant amount of revenue, but it rarely does. There are two general approaches to levying this tax. One is an annual personal property tax, based on the depreciated value of the motor vehicle. Under this approach, the objective usually has more to do with taxing wealth than with approximating a green tax, and takes the form of imposing higher rates on higher-valued vehicles. Taxing according to the value of the car is difficult to justify from an environmental point of view because price is unlikely to be correlated with carbon dioxide emissions or fuel consumption. The other approach is an annual tax based on such features as the age and engine size of the vehicle (older and larger cars generally contribute more to pollution), the registered location of the vehicle (cars in cities add more to pollution and congestion), driver records (20 per cent of drivers are responsible for 80 per cent of accidents), and axle weight (heavier vehicles do exponentially more damage to roads and require roads that are costlier to build) (Bird and Slack, 2013). If technology permits, even more refined pricing schemes could be applied, at least in the most heavily congested urban areas or at border crossings.

Almost all Asian cities levy some form of registration tax on motor vehicles, but it rarely yields significant revenue. The problems with administering this tax vary from country to country (and from state to state in some federal countries). While there is, in principle, no good reason for under collection, enforcement is sometimes lax. This is said to be due to a feeling that high registration and operating costs are unjust in metropolitan areas that do not have adequate public transport systems. Even without sound arguments, increased automobile taxes of any kind are contentious, and politicians tread lightly.

An interesting dimension of the use of motor vehicle registration is the possibility of using this as an instrument for rationing road use. Singapore's pioneering programme with a restricted license based on congestion levels and peak hour commuting patterns has been a widely celebrated policy. Another less targeted approach uses licenses to limit the number of motor vehicles on the road. In China, for example, Beijing and Shanghai have set a cap on vehicle registrations and established a quota for newly registered license plates.

User charges

User charges should be moved closer to full cost recovery levels in large cities to improve the efficiency of service delivery for the public functions, lower local tax rates and reduce the claim of cities on intergovernmental transfers.

The principle behind user charges is simple enough. Let users pay for a service according to how much benefit they receive from it, usually measured by how much of it they use. The binding requirement is that the service must be amenable to pricing. Many services that are typically provided by the Government fall into this category, including water and sewerage, electricity, mass transit, road use and much more.

When services cannot be priced, but exclusion in consumption is possible, an alternative cost recovery measure is some form of benefit charge or tax. This might include financing for garbage collection and solid waste disposal, entry into parks, parking and advertisement fees, a general charge for business services collected through a license, real property registration fees, and special assessments to cover the cost of new public investments.

The revenue potential in all of this is considerable, as is seen by the results in industrial countries where the pricing of public services is widely used. In the United States, user charges and fees account for about 35 per cent of all own source revenues of local governments (Fox and Slack, 2010).

Most observers of metropolitan city finances decry the inadequate recovery of costs with user charges. While there are not adequate data to make firm comparisons, several case studies of cities have made the point. Redistribution is the one most often cited reason why cost recovery is not the norm. Most metropolitan governments are hesitant to zone low income families out of the market for necessities or merit goods. Critics argue that there are better ways to protect poor families than subsidized prices of government provided services. There is also a perception among some populations that government services are an entitlement that should not be paid for with cost recovery prices. But this argument ignores the fact that the services will be paid for with general taxes that are not necessarily levied on those who benefit from the services provided. Finally, there is the question of what is meant by full cost recovery, and whether it should somehow include the benefits enjoyed by non-users.

Intergovernmental transfers

Researchers and policymakers usually argue that metropolitan local governments should be more revenue self-sufficient, but rarely is a target level set for self-sufficiency. At least in theory, one might argue that the target should be set as metropolitan areas need to raise at least enough revenue from their own sources to cover those local government expenditures that provide benefits to the local population and that are not mandated by higher-level governments.³³ In other words, only the spillover benefits to non-payers should be supported by intergovernmental transfers. With adequate devolution of revenue raising powers, this rule might work reasonably well for a metropolitan area-wide government structure (Bangkok or Shanghai) but not for a fragmented metropolitan local government structure (Manila, Kolkata or Jakarta) because some local governments lack adequate taxable capacity to raise adequate revenues. In those cases, the greater self-sufficiency mandate will probably lead to increased fiscal disparities within the metropolitan area.

The current practice

Though hard evidence is not available for all cities in the Asia-Pacific region, it is almost certainly the case that local governments in metropolitan areas fund more of their budgets from own sources than do other local governments. Shah (2013) developed a sample of 17 metropolitan areas and calculates an average dependence on intergovernmental transfers of 42 per cent of total revenues. It is hard to find a pattern in these data because the range is from less than 10 per cent in Pune, India to 36 per cent of total revenues in Delhi (Bandyopadhyay and Rao, 2009) to over 70 per cent in Istanbul. On average, it is likely that Asian city governments are more dependent on transfers than are those in, for example, Latin America (table 2).

The treatment of metropolitan area local governments in the intergovernmental transfer system varies quite a lot. Many countries do not have a special regime for large urban areas, meaning they treat metropolitan local governments the same way as they treat other local governments (Shah, 2013). In other cases the formula used to distribute transfers may include elements to increase or reduce the amounts flowing to richer areas. If the distribution formula does not account for fiscal capacity (the Philippines), or includes an effective equalization feature

³³ Technically, all who benefit from local services should pay the local tax, including non-residents who migrate in to work or shop. For most metropolitan area-wide local governments, the number of non-residents is much the same as the local resident population. But in a jurisdictionally fragmented metropolitan area, the daytime population is often quite different from the resident population.

(Indonesia or Viet Nam), the richer provinces and metropolitan areas will be less favoured.

In some countries, there are special arrangements for metropolitan areas and additional resources may be provided to accommodate their special needs through grant programmes or by giving large cities both provincial and city status. Those arrangements may include some metropolitan areas while excluding others. For example, the Jakarta metropolitan area is excluded from the “needs” portion of Indonesia’s general revenue sharing programmes on grounds that it already has a fiscal surplus. However, Jakarta receives a share of national personal income tax revenues and is eligible to receive ad hoc conditional grants.

Countries that share central government revenues on a derivation basis, meaning they return the shared tax revenues according to where it is collected, will favour the wealthier provinces and metropolitan local governments. Four of the highest income Chinese metropolitan local governments have provincial status and receive significantly larger per capita amounts of shared taxes.³⁴ Metropolitan Bangkok receives a significant per cent of revenues from centrally-determined surcharges on VAT and excises that are shared on an origin basis (Shah, 2012; Varanyuwatana and Laovakul, 2010).

If the objective is to target specific projects with conditional grants, ad hoc distribution methods are often used and the metropolitan local governments are often excluded. Countries that try to match an index of expenditure needs to an index of taxable capacity, and distribute against the needs gap, will usually discriminate against the larger and wealthier metropolitan local governments. Ad hoc capital grants can be dangerous for metropolitan areas if the continued funding is not guaranteed. Cases in point are the halting of construction of transportation projects in both Jakarta and Bangkok (Shah, 2013).

India has a separate programme for urban local governments. The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) began in 2005 to finance public infrastructure on a sustainable basis (box 2.5). The grants were earmarked for infrastructure and required certain reforms to improve urban governance. A thoughtful critique of JNNURM noted that the programme was hampered by slow release of funds, cost over-runs, inadequate capacity to absorb grants at the local level, problems in monitoring the progress with urban management reforms and enforcing the conditionality, and the inability of state and local governments to back JNNURM with their own financial resources (Ahluwalia, Kanbur and

³⁴ The simple correlation between per capita revenue sharing transfers to provinces and per capita GDP is -0.91 (Bahl, Goh and Qiao, 2014, pp. 30).

Box 2.5

The Jawaharlal Nehru Urban Renewal Mission (JNNURM)

The JNNURM was launched in 2005, under the leadership of the Ministry of Housing and Urban Development, as the largest ever nationwide scheme for urban infrastructure development and service delivery in India. It was designed to improve both infrastructure and urban governance, and included a special component of providing basic services to the urban poor. The JNNURM required the urban local bodies to prepare a city development plan and to agree to certain mandatory reforms in urban governance as a grant condition. The mandatory reforms included using double entry accounting and management information systems, using geographic information systems for e-governance and property tax reform, and recovering operations and maintenance expenditures through user charges. The nodal agency for the reform programme was appointed by the state government, and the programme was financed by a federal grant with matches from the state and urban local bodies.

The JNNURM mission was closed in 2014 by the new government and replaced with the Atal Mission for Rejuvenation and Urban Transformation (AMRUT). In addition, the new government started a programme called “Smart Cities”. Under the “smart cities mission”, the government has chosen to grant Rs. 1 billion to 100 cities in five years beginning 2015 (20 cities each in five years) for upgrading their infrastructure and the cities are chosen based on competition among the cities on the quality of proposals made.

Mohanty, 2014, pp. 49-55). While the programme improved infrastructure chiefly in water supply and drainage, the main gain may have been to raise the ambition of Indian cities.

How to reform the grant system

A goal for metropolitan areas should be that they finance most local public services with revenues raised from beneficiaries through local taxes and user charges. To this end, metropolitan local governments should be empowered to levy new taxes including surcharges on central or provincial level taxes. Intergovernmental transfers to metropolitan local governments should be limited to those that compensate for benefit spillovers, and those levied to reduce income distribution concerns such as slum upgrading.

In many metropolitan areas, there is a heavy dependence on intergovernmental transfers to finance local public services, and so the transition to a more locally financed system will take time. Replacing grant financing with local taxes and charges will be painful to much of the local population and will need to be implemented gradually. The development of a new tax code and a new administrative structure also will take time. Higher-level government leaders, and many local political leaders will need to be convinced that such changes are in the best interests of the country, and this will further slow the transition.

There also is a question of how this separate regime for intergovernmental transfers will be structured in metropolitan areas with a fragmented local government structure. Tax decentralization in such cases (Metropolitan Manila or Metropolitan Kolkata) accentuates fiscal disparities, thus the new grant regime will need to include an intra-metropolitan equalization feature.

For those countries in the region where the traditional centralized approach to urban finance is continued, intergovernmental transfers will remain a mainstay of the urban public finance system. In this case, the central Governments should be certain that it has structured the transfer system to accomplish the objectives it has set for it. So long as metropolitan local governments can rely heavily on grants from higher-level governments, significant increases in revenue mobilization at the local government level will not likely happen.

6. Recommendations on the way forward

The public finances in the metropolitan areas of the Asia-Pacific region were long ago ready for reform. The agglomeration benefits that came with urbanization have shown up in a rapid growth in GDP in metropolitan areas that increased the capacity to tax in urban areas. But at the same time the backlog in public services and infrastructure continued to grow. Because central (and state/provincial) governments faced other significant claims on their resources, the devolution of revenue raising powers has not taken hold in low- and middle-income countries in the region. New and very different approaches to fiscal reform are called for, and in the fiscally centralized Asia and Pacific region, the reform medicine will be hard to take.

The place to start is with an economic development strategy, that is a national urban policy for urban areas. Barriers that stand in the way of capturing agglomeration effects should be eliminated, and the migration to cities should not be discouraged. This strategy calls for incentives such as lowering the regulatory costs of interregional and international trade, and increasing investment in transportation networks, and improving the quality of services offered to residents and businesses in the large cities in the region. So far, countries have said relatively little about how to develop local government finance networks that make large city finances more manageable and generate revenues to support adequate services and infrastructure investment.

What is the way forward? How can Asian countries develop fiscal strategies to support their urban economic development strategies? Three central elements of such a strategy might be suggested.

1. Recognize that metropolitan areas are different from one another and that one approach to increased revenue mobilization in urban areas of the Asia-Pacific region will not fit them all. Populations in different metropolitan areas do not necessarily adopt the same objectives for their budgets, and central/provincial governments that are responsible for controlling metropolitan areas are driven by many more motives than economic development. In the end, the revenue raising strategy adopted by China will be different from that adopted in India will differ again from that adopted in the Philippines, and so on.
2. Where local government autonomy is deemed an important part of the urban area development strategy, metropolitan area local governments should be able to cover most of their budget expenditures with locally raised revenues, in effect charging a tax price that covers the marginal cost of providing local benefit services.³⁵ This will require that they be given significant, additional revenue raising powers.
3. Higher-level governments might consider establishing a blue-ribbon commission to study the feasibility of a special regime for metropolitan area finances. The scope of this inquiry would include metropolitan government structure, the assignment of expenditure responsibilities, and the assignment of revenue raising powers including taxation, user charges and borrowing, and provisions for accountability.

A specific option that warrants consideration is to develop a metropolitan fiscal strategy that provides for a special governance and financing regime for metropolitan areas.³⁶

Most countries engage in urban planning but relatively few integrate their urban plans with a fiscal plan. Urban plans often focus on land use and public facility needs without giving careful attention to the fiscal question of how to pay for and maintain public services.

Most countries do not have a metropolitan fiscal strategy, so large cities are often viewed as just another unit in the local government fiscal system. They sometimes have the same revenue raising power as other local governments, and their entitlements to intergovernmental transfers are often calculated in the same way.

³⁵ 'Local benefit services' are local government-financed services where the benefits of the service are enjoyed by local taxpayers. Locally financed services that benefit non-payers should be financed with intergovernmental transfers.

³⁶ For a good discussion of this issue and the constraints to implementation, in the context of the Philippines, see World Bank, 2017.

But the continued growth of urban populations and urban economies and the challenges of global competition are pushing systems to change. Many countries are recognizing that urban economic growth will not be sustainable without a metropolitan strategy that resolves the underlying governance and financing problems. In many urban areas, the efficient provision of services and their financing has outgrown the jurisdictional boundaries of cities. Many take the view that the mix of service provision and financing should include regional taxes, delivery of some services on a regional basis, and a revenue model focused on more self-sufficiency (Bahl, Linn, and Wetzels, 2013, p. 27).

In short, metropolitan areas need to become more than a convenient way to think about planning for the labour market area, and area-wide governments need to be responsible for much more than planning and land use regulation. They need to become local government units with elected leadership, broader service delivery responsibility and more autonomy in their spending and revenue raising decisions. Metropolitan local governments should have more autonomy in their spending and revenue raising decisions. The case for higher-level intervention in the financing of metropolitan local governments is much weaker than that for other local governments in the country.

Area-wide metropolitan local governments offer the best future for governance and finance. When the jurisdiction boundary is large enough, spillover benefits and costs can be internalized and economies of scale can be captured. Metropolitan area-wide governments can rely on broader tax bases because their coverage of the economic region is greater. Broader based consumption, motor fuel and property taxes bring fewer distortions because there is less mobility across jurisdictional boundaries. The broader tax base and the larger jurisdiction coverage will also increase the debt repayment power of the metropolitan government. Jurisdictional fragmentation, which emphasizes home rule, does not offer these advantages, and it tends to be characterized by large intra-metropolitan fiscal disparities. Where countries choose to stay with the home rule emphasis that characterizes jurisdictional fragmentation, financing will be more through intergovernmental transfers and horizontal systems of revenue sharing to eliminate unwanted fiscal disparities among municipalities.

The best approach to getting a metropolitan fiscal strategy in place will vary from country to country, but in most cases the policy reform would concentrate on three components. The first is to create “special” metropolitan city governments within the present regime but with broader taxing and spending powers and more autonomy than other local governments. These powers might include the ability to enact certain new taxes and the freedom to set new tax rates and user charges, and to control

exemptions and preferential treatments. Metropolitan local governments can gain this autonomy in exchange for much of their claim on the present system of intergovernmental transfers. This would be new policy ground for most of the Asia-Pacific region.

The second component of the strategy would be to encourage metropolitan governments to move to areawide boundaries for service delivery and revenue raising. This might be done in several ways. Convert existing central or state government metropolitan development agencies into elected local governments with significant autonomy to deliver services and raise revenues. Create metropolitan taxing districts. Relax annexation laws, and provide incentives to expand metropolitan boundaries where necessary. To preserve some measure of home rule, an underlying tier of local self-government might be created. The city-barangay model in The Philippines is an example of how this might work.

Third, the cost dimension of the urbanization problem may be addressed by raising tax prices in metropolitan areas to a level commensurate with the cost of providing services. "If you want to live and do business in the big city, you have to pay the price." This strategy will also influence migration and investment decisions in urban areas. But implementing this part of the strategy will require the devolution of taxing powers to metropolitan local governments.

China is a special case. The Government is committed to a centralized regime for revenue mobilization. For the time being, local autonomy will be limited to the expenditure and non-tax parts of the budget. Nevertheless, metropolitan area boundaries are more or less in place, as is a system of broad-based intergovernmental transfers to finance services, and a supplementary system of land revenues contributes to financing the costs of urbanization. Furthermore, the Government of China is on record as recognizing the increasing costs of urbanization and the need to improve the revenue base of urban local governments (World Bank and Development Research Center of the State Council, 2014, p. xxvi). Another emerging problem in China is how to service populations and businesses when their activities spill across provincial boundaries.

The policy matrix for metropolitan fiscal reform would include the following:

1. Metropolitan area-wide local governments should be created and should have taxing powers commensurate with the expenditure responsibility assigned to them and with their demands for local public services. Where metropolitan areas continue with a pattern of jurisdictional fragmentation, they will be financed by higher property taxes and user charges, and will receive

increasing amounts of fiscal transfers from the higher-level governments.

2. A special expenditure assignment regime should be enacted for metropolitan local governments. The regime should make provision for cooperative arrangements and contracting, and for appropriate horizontal arrangements for revenue sharing. All local government employees should be hired, fired and compensated by the local governments. Local governments in metropolitan areas should have the autonomy to plan and implement their budgets.
3. Metropolitan local governments could be allowed to impose a higher marginal rate on property and land taxes. Some thought should be given to a metropolitan area-wide property tax administration district, funded on a contract basis with the local governments. Provision should be made for the imposition of value capture mechanisms. Remove any restrictions on tax rates or the valuation of taxable property.
4. Local governments in metropolitan areas could impose higher taxes on motor vehicle registrations, and could be allowed to impose a sur-tax on motor fuels, or to share in such a sur-tax.
5. Local governments in metropolitan areas should be given the power to impose a broad-based tax for general purposes. This might include a sales tax or a business tax, or it might be levied as a surcharge on a national consumption tax with a local option rate.
6. Local governments in metropolitan areas should be given the power to impose higher rates of special taxes and licenses to reflect the benefits from public services in large cities. These might include business licenses, development charges, and surcharges on the national income and sales taxes.
7. User charges should be increased to recover at least operating and maintenance costs for public utilities and transportation services provided in the metropolitan area. This includes general business licenses which might be imposed at a higher rate in large urban areas to reflect the level of public services provided.
8. In countries that decided on revenue devolution, local governments in metropolitan areas would no longer participate in the general intergovernmental transfer scheme, or in special schemes, but would be eligible for conditional transfers to correct for spillovers with national or regional implications. Intra-metropolitan fiscal disparities could be dealt with by horizontal equalization schemes.

9. Again, China is different, but the same principle could apply. Residents and businesses could pay the higher cost of better services provided in metropolitan areas. This could be done in many ways, such as the enactment of an annual property tax, full cost recovery from user charges, higher licensing costs, and more aggressive mobilization of revenues from the motor vehicle sector.

References

- Ahluwalia, I.J., R. Kanbur, and P.K. Mohanty (2014). Challenges of urbanisation in India: An overview. In *Urbanisation in India: Challenges, Opportunities and The Way Forward*, I.J. Ahluwalia, R. Kanbur, and P.K. Mohanty, eds. New Delhi: Sage Publications.
- Ahmad, Junaid (2003). Creating incentives for fiscal discipline in the new South Africa. In *Fiscal Decentralization and the Challenge of Hard Budget Constraints*, Jonathan Rodden, Gunnar Eskeland, and Jennie Litvack, eds. Cambridge, MA: MIT Press.
- Alm, James, Patricia Annez, and Arbind Modi (2004). Stamp duties in Indian states: a case for reform. World Bank Policy Research Working Paper No. 3413. Washington, D.C.: World Bank.
- A.T. Kearney (2010). The Urban Elite – The A.T. Kearney Global Cities Index 2010. Available at www.atkearney.com/documents/10192/efd4176a-09dd-4ed4-b030-9d94ecc17e8b.
- Bahl, Roy (2004). Property transfer tax and stamp duty. Jamaica Comprehensive Tax Study, Paper Number Two. Atlanta: Andrew Young School of Policy Studies, Georgia State University.
- Bahl, Roy (2013). The decentralization of governance in metropolitan areas. In *Financing Metropolitan Cities in Developing Countries*, By Roy Bahl, Johannes Linn, and Deborah Wetzel, eds. Cambridge Mass: Lincoln Institute of Land Policy.
- Bahl, Roy (2014). A retrospective on taxation in developing countries: will the weakest link be strengthened? In *Taxation and Economic Development: The Weakest Link, Essays in Honor of Roy Bahl*, Richard M. Bird and Jorge Martinez-Vazquez, eds. Cheltenham, United Kingdom: Edward Elgar.
- Bahl, Roy, and Richard Bird (2008). Subnational taxes in developing countries: the way forward. *Public Budgeting & Finance*, vol. 28, No. 4, pp. 1-25.
- Bahl, Roy, Chor-Ching Goh, and Baoyun Qiao (2014). *Reforming the Public Finance System to Fit a More Urbanized China*. Beijing: China Financial and Economic Publishing House.
- Bahl, R.W., and J.F. Linn (1992). *Urban Public Finance in Developing Countries*. New York: Oxford University Press.
- Bahl, Roy, Johannes Linn, and Deborah Wetzel, eds. (2013). *Financing Metropolitan Cities in Developing Countries* Cambridge MA: Lincoln Institute of Land Policy.
- Bahl, Roy, and Jorge Martinez-Vazquez (2008). The property tax in developing countries: current practice and prospects. In *Making the Property Tax Work: Experiences in Developing and Transitional Countries*. Roy Bahl, Jorge Martinez-Vazquez, and Joan Youngman, eds. Cambridge: Lincoln Institute of Land Policy.
- Bahl, Roy, Musharraf Cyan, and Sally Wallace (2011). Challenges to intergovernmental fiscal relations in Pakistan: the revenue assignment dimension. In *Decentralization in Developing Countries: Global Perspectives on the Obstacles to Fiscal Devolution*. Jorge Martinez-Vazquez and Francois Vaillancourt, eds. Northampton, MA: Edward Elgar.
- (2015). The potential of provincial taxation. In *The Role of Taxation in Pakistan's Economic Revival*. Jorge Martinez-Vazquez and Musharraf Cyan, eds. Oxford: Oxford University Press.
- Bandyopadhyay, Simanti, and M. Govinda Rao (2009). Fiscal health of selected Indian cities. World Bank Policy Research Working Paper No. 4863. Washington, D.C.: World Bank.
- Bird, Richard (2010). Subnational taxation in developing countries: a review of the literature. Policy Research Working Paper No. 5450. Washington, D.C.: World Bank.
- Bird, R.M., and E. Slack (2004). *International Handbook of Land and Property Taxation*. Cheltenham, United Kingdom and Northampton, MA: Edward Elgar.

- _____ (2013). Metropolitan public finance: an overview. In *Financing Metropolitan Governments in Developing Countries*. Roy Bahl, Johannes Linn, and Deborah Wetzel, eds. Cambridge MA: Lincoln Institute of Land Policy.
- De Cesare, Claudia (2012). Overview of property tax in Latin America. Working Paper WP10CD1. Cambridge, MA: Lincoln Institute of Land Policy.
- Diokno, Benjamin E. (2009). Decentralization in the Philippines after ten years: what have we learned? In *Decentralization Policies in Asian Development*. Shinichi Ichimura and Roy Bahl, eds. Singapore: World Economic Press.
- Fox, William F., and Enid Slack (2011). North America. In *Local Government Finance: The Challenges of the 21st Century*. Jorge Martinez-Vazquez and Paul Smoke, eds. Cheltenham, UK: Edward Elgar.
- Glaeser, Edward, and Abha Joshi-Ghani (2015). Rethinking cities. In *The Urban Imperative: Towards Competitive Cities*. Edward Glaeser and Abha Joshi-Ghani, eds. New Delhi: Oxford University Press.
- Haldenwang, C.V., and others (2015). *The devolution of the land and building tax in Indonesia*. Bonn: German Development Institute.
- High Powered Expert Committee (2011). *Report on Indian Urban Infrastructure and Services*. Delhi: Government of India.
- Ingram, Gregory, Zhi Liu, and Karin Brandt (2013). Metropolitan infrastructure and capital finance. In *Government Finance in Metropolitan Areas in Developing Countries*. Roy Bahl, Johannes Linn, and Deborah Wetzel, eds. Cambridge, MA: Lincoln Institute of Land Policy.
- Jouve, Bernard, and Christian Lefèvre, eds. (2002). *Local Power, Territory and Institutions in European Metropolitan Regions*. London: Frank Cass.
- Kelly, Roy (2014). Implementing sustainable property tax reform in developing countries. In *Taxation and Development: The Weakest Link? Essays in Honor of Roy Bahl*. Richard M. Bird and Jorge Martinez-Vazquez, eds. Cheltenham, United Kingdom: Edward Elgar.
- Manasan, Rosario (2009). Local public finance in the Philippines – balancing autonomy and accountability. In *Decentralization Policies in Asian Development*. Shinichi Ichimura and Roy Bahl, eds. Singapore: World Scientific Press.
- Man, Joyce (2011). Local public finance in China: An overview. In *China's Local Public Finance in Transition*. Joyce Yanyun Man and Yu-Hung Hong, eds. Cambridge, MA: Lincoln Institute of Land Policy.
- Mathur, Om Prakash, Debdulal Thakur, and Nilesh Rajadhyaksha (2009). *Urban Property Tax Potential in India*. New Delhi: National Institute of Public Finance and Policy.
- McCluskey, W.J., and Riel Franzsen (2013). Property taxes and land taxes. In *Government Finance in Metropolitan Areas in Developing Countries*. Roy Bahl, Johannes Linn, and Deborah Wetzel, eds. Cambridge: Lincoln Institute of Land Policy.
- McKinsey Global Institute (2010). *India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth*. London: McKinsey & Company.
- Morgan, P.J., and L.Q. Trinh (2016). Fiscal Decentralization and Local Budget Deficits in Viet Nam: An Empirical Analysis. ADBI Working Paper 613. Tokyo: Asian Development Bank Institute. Available from <https://www.adb.org/publications/fiscal-decentralization-local-budgetdeficits-viet-nam>.
- Nasehi, Carly and Rahil Rangwala (2011). Structures of metropolitan governance and finance: a case study on Manila, Philippines. Working Paper. Cambridge, MA: Lincoln Institute of Land Policy.
- Newbery, D.M. (2005). Why tax energy? Towards a more rational policy. *Energy Journal*, 26 (3), 1-39. Available at <http://www.jstor.org/stable/41319496>

- OECD (2006). OECD Territorial Reviews: Competitive Cities in the Global Economy. Paris. Available from www.oecd.org/gov/oeCDterritorialreviewscompetitivecitiesintheglobaleconomy.htm.
- _____. (2008). OECD Territorial Reviews: Istanbul, Turkey. Paris. Available from www.oecd.org/cfe/regional-policy/oeCDterritorialreviewsistanbulturkey.htm.
- Pethe, Abhay (2013). Metropolitan Public Finances: The Case of Mumbai. In *Financing Metropolitan Governments in Developing Countries*. Roy Bahl, Johannes Linn, and Deborah Wetzel, eds. Cambridge MA: Lincoln Institute of Land Policy, pp. 243-272.
- Rezende, F., and S. Garson (2006). Financing metropolitan areas in Brazil. *Revista de Economia Contemporanea*, vol. 10, No. 1, pp. 5-34.
- Rao, M. Govinda (2009). Fiscal federalism in India – trends and reforms. In *Decentralization Policies in Asian Development*. Shinichi Ichimura and Roy Bahl, eds. Singapore: World Scientific Press.
- Rao, Govinda, and Richard Bird (2014). Governance and fiscal federalism. In *Urbanisation in India: Challenges, Opportunities and The Way Forward*. Isher Judge Ahluwalia, Ravi Kanbur, and P.K. Mohanty, eds. New Delhi: Sage Publications.
- Rao, U.A. Vasanth (2008). Is area-based assessment an alternative, an intermediate step, or an impediment to value-based taxation. In *Making the Property Tax Work*. Roy Bahl, Jorge Martinez-Vasquez, and Joan Youngman, eds. Cambridge, MA: Lincoln Institute of Land Policy.
- Varanyuwatana, S., and D. Laovakul (2010). Progress of fiscal decentralization in Thailand. Paper presented at the conference: A Comparative Perspective between Thailand and Indonesia, March. Bangkok: Thammasat University.
- Shah, Anwar (2013). Grant finances in metropolitan areas: a review of principles and worldwide practices. In *Financing Metropolitan Governments in Developing Countries*. Roy Bahl, Johannes Linn, and Deborah Wetzel, eds. Cambridge, MA: Lincoln Institute of Land Policy.
- Shah, Anwar (2012). Options for financing subnational governments in Indonesia. In *Fiscal Decentralization in Indonesia: A Decade after the Big Bang*. Ministry of Finance, ed. Jakarta.
- Slack, Enid (2007). Managing the coordination of service delivery in metropolitan cities: the role of metropolitan governance. Policy Research Working Paper No. 4317. Washington, D.C.: World Bank.
- Smoke, Paul (2013). Metropolitan cities in the national fiscal and institutional structure, In *Financing Metropolitan Cities in Developing Countries*. Roy Bahl, Johannes Linn, and Deborah Wetzel, eds. Cambridge MA: Lincoln Institute of Land Policy.
- Smolka, Martim (2013). *Implementing Value Capture in Latin America: Policies and Tools for Urban Development, Policy Focus Report*. Cambridge, MA: Lincoln Institute of land Policy.
- Sridhar, Kala, and Simanti Bandyopadhyay (2007). Improving the fiscal health of cities: a pilot study of Kolkata. Delhi: National Institute of Public Finance and Policy.
- Tsui, Steven (2008). Alternative value capture instruments: the case of Taiwan. In *Making the Property Tax Work: Experiences in Developing and Transitional Countries*. Roy Bahl, Jorge Martinez-Vazquez, and Joan Youngman, eds. Cambridge: Lincoln Institute of Land Policy.
- United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) (2015). The State of Asian and Pacific Cities 2015 Urban transformations: Shifting from quantity to Quality. Bangkok.
- United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and UN-Habitat (2010). *The State of Asian Cities 2010/11*. Available at <http://www.unescap.org/resources/state-asian-cities-201011-report>.

- World Bank and Development Research Center of the State Council (2014). *Urban China: Toward Efficient, Inclusive and Sustainable Urbanization*. Washington, D.C.: World Bank.
- World Bank (2009). *Reshaping Economic Geography*, World Development Report. Washington, D.C.
- World Bank (2017). *Urbanization Review: Fostering Competitive, Sustainable and Inclusive Cities*. Working Paper 114088, Washington, D.C.
- Yoshino, Naoyuki, and Peter J. Morgan, eds. (2017). *Central and Local Government Relations in Asia Achieving Fiscal Sustainability*. Tokyo: Asian Development Bank Institute and Cheltenham, UK: Edward Elgar.
- Yusuf, Shahid (2013). *Metropolitan cities: Their rise, role and future*. In *Financing Metropolitan Cities in Developing Countries*. Roy Bahl, Johannes Linn, and Deborah Wetzel, eds. Cambridge MA: Lincoln Institute of Land Policy.

3. Tax Incentives and Tax Base Protection in Developing Countries³⁷

Joosung Jun

1. Introduction

Tax incentives have been widely used in developing countries to promote economic growth, though fiscal experts have critiqued their cost-effectiveness for many years.³⁸ In addition to foregone revenue, tax incentives can create distortions in resource allocation, complicate tax administration and increase the opportunities for corruption and rent-seeking.³⁹

The empirical evidence on the benefits of tax incentives is very sparse and inconclusive.⁴⁰ The question, then, is why governments have used such a seemingly ineffective and inefficient instrument, rather than

³⁷ The author is grateful to Yea-na Bang and Hye-mi Kim for research assistance.

³⁸ For a recent survey of the literature, see Zolt (2015).

³⁹ For cases of positive externalities, a proper use of tax incentives can collect revenue and improve resource allocation at the same time.

⁴⁰ Unlike the revenue cost, the benefits of tax incentives are not easily quantifiable. See Zee et al. (2002) for a review of the past empirical studies and James (2013) for recent econometric evidence. Both papers recommend a cautious approach in implementing tax incentives, stressing the importance of general investment climates in enhancing their efficacy.

offering regular budget expenditure to support a targeted activity.⁴¹ One immediate answer in the practical context of policymaking is that unlike budget expenditure, tax breaks do not require a new source of revenue to finance an activity. Tax revenue in developing countries is generally low and their governments operate a tight budget in financing infrastructure and public education. Instead of introducing a new spending item, governments may find it convenient to choose a tax expenditure that can even be heralded as a 'tax cut.'

A more standard explanation for the continued popularity of tax incentives is related to attracting foreign investment that could bring capital and technology to a host country. While tax is one of the many factors that determine multinational corporations' investment location,⁴² governments might prefer to use a more visible and readily available tool, such as a tax holiday, to attract investors rather than resort to such time-consuming measures as enhancing macroeconomic stability and upgrading public infrastructure. The literature has consistently questioned the efficacy of investment incentives per se, though, emphasizing the importance of the synergy of tax and non-tax factors. The observation that investment incentives were often used to compensate for investment climate deficiencies in many countries (OECD, 2008) was frequently cited as a worst practice, though this negative connotation will be partly challenged in this chapter. The literature also noted the possibility of a race to the bottom engendered by increased tax competition as legal and economic barriers on capital mobility have been lifted.

This prediction of tax base erosion, however, seems to be exaggerated considering the complex nexus of investment motives of multinationals and the differing attributes of host countries. In practice, as argued below, smaller effects of investment incentives would likely be offset by lower revenue costs unless these incentives are literally redundant. Rather, a potentially more worrisome base-erosion threat in the context of international investment may be profit shifting by foreign firms through such tax saving devices as transfer pricing.

⁴¹ James (2013) reports that there are regional disparities by type of incentives. For instance, tax incentives for research and development (R&D) are most actively used in the OECD countries and those in the East Asia and Pacific region while tax holidays are prevalent in developing regions such as South Asia, Latin America and Caribbean, Eastern Europe, and Central Asia.

⁴² The choice of investment location hinges on many non-tax factors such as economic and political stability, infrastructure and institutional strength, availability of a trained labour force and opportunities for above-normal returns.

The incentive literature has also noted that administrative complexity and statutory arbitrariness associated with tax incentives provide an opportunity for corruption and rent-seeking, incurring a variety of social costs. If policymakers in poorer countries are less able to withstand the inevitable political pressures to favour some sectors over others, they might choose policies contrary to overall national welfare. James (2013) shows that 'discretionary' tax incentives, which are more prone to abuse and waste than an automatic triggering mechanism, are still prevalent in many regions of the world.⁴³ Corruption has been one of the major policy challenges facing developing countries and its implications for tax revenue have been recognized in the literature.⁴⁴ The prevalence of corruption weakens the culture of compliance, thereby increasing tax evasion. To reduce the abuse of tax laws for private gain, tax policy should be designed in a way to minimize the discretion of tax officials. In addition, administrative capacity needs to be enhanced so that more information on taxable transactions is available to government authorities. After all, corruption and tax evasion arise because they are hard to observe.⁴⁵

The government cannot observe transactions made in the informal sector. Even in the formal sector, cash transactions are hard to catch since they leave no paper trails. Gordon and Li (2009) assess the policy implications discernible from the optimal tax literature in cases where the presence of the informal sector is taken into account, and they find that many of the seemingly perverse policies observed among developing countries can easily make sense as ways to respond to such evasion pressures. This hypothesis may possibly provide another clue to the seemingly puzzling popularity of tax incentives in developing countries. In the face of enormous evasion pressures, the government might be using tax incentives, combined with certain non-tax benefits, as a means of preventing firms from shifting into the informal sector or evasion-prone activities. To the extent that the government perceives such base-protection effects of tax incentives to be large enough to justify the associated costs, their choice appears to be a reasonable response on second-best grounds.

Often, a success story becomes a yardstick for policy design. Several Asian countries with remarkable economic success such as the Republic of Korea and Singapore have made extensive use of tax incentives in their growth process, and this positive correlation was often contrasted with the

⁴³ Since the focus of this chapter is on economic effects of tax incentives, administrative considerations are not discussed here despite their practical importance.

⁴⁴ For example, IMF (2016a); Tanzi and Davoodi (2002); and Besley and Persson (2014).

⁴⁵ Lack of requisite information has a broader implication for the tax design. Optimal lump-sum redistributive taxes are impossible because individual's abilities are not observable. An income tax is distortionary however broad its base is because it distorts the work-leisure decision.

less favourable experiences in other parts of the world (Tanzi and Shome, 1992; Bird, 2000). Even in these countries, however, it is unclear whether the incentive policy was effective and, if so, through what route. In this regard, Singapore and the Republic of Korea present an interesting comparative case in that they both have made extensive use of investment incentives in the process of capital accumulation, but the ways they worked were quite contrasting. A case in point is that while Singapore has been very successful in hosting foreign direct investment (FDI) as part of its growth engine, the Republic of Korea has witnessed a meagre presence of foreign firms despite a generous treatment of investment in the tax laws. The combination of investment incentives and investment-friendly environments witnessed in Singapore appears to be consistent with the best-practice suggestions made by international organizations (James, 2010, for instance). In contrast, the overall investment climate in the Republic of Korea was not as favourable as in Singapore as described in Section 4. The Government of the Republic of Korea went further to the point of implicitly discriminating against foreign investors in favour of local companies through regulations and administrative practices.

The Korean example is puzzling since the effects of tax incentives on marginal investment by local firms were estimated to be weak.⁴⁶ If investment allowances and credits were not sufficiently effective, why did the Government keep these incentives in place? Political factors might well have worked to some extent considering the cosy relationship between large firms and the Government. On its own, this is not an adequate explanation for the continuity of tax incentives. It is hard to imagine that a country can make such remarkable economic progress while wasting valuable fiscal resources in such a way. Notably, tax revenue has steadily increased from 17 per cent of gross domestic product (GDP) in 1980 to the current 25 per cent in the Republic of Korea. This chapter suggests the possibility of an alternative route through which tax incentives may promote economic growth. That is, incentives can be used to support firms that pay more in taxes, and the increased revenue can be used to finance growth-promoting infrastructure. The Government of the Republic of Korea likely favoured local companies because they made a greater contribution to its revenue base than foreign investors.

The comparison of Singapore and the Republic of Korea implies that tax policy needs to be designed and evaluated based on country-specific factors. Among developing countries there can be large differences in economic and political structures, with different countries facing different

⁴⁶ According to unpublished government studies in the Republic of Korea, the effects of most investment incentives were very limited. The World Bank (1993) reports a very modest contribution of tax policy to economic growth at about 6 per cent of total GDP growth for the period 1962-1982.

constraints. Even among countries that pursue a growth-oriented tax policy, a tax structure that might be desirable for one could be undesirable for another. In the context of tax incentives, therefore, best practices based on optimal tax theory and the experience of advanced countries should be considered with caution for most developing countries. In countries with strong investment climates such as Hong Kong China and Singapore, investment incentives could be more effective as stressed in the literature. For most developing countries, however, it is a remote possibility to build infrastructure and human resources in a short period of time. Providing tax incentives then can be considered as a second-best option to attract foreign investment if appropriately designed around country-specific factors.

This chapter examines various channels through which tax incentives can be better exploited for base-protection purposes in developing countries. Both the long-run and short-run aspects of the incentive policy are discussed, thereby suggesting several second-best policy options taking into account enforcement difficulties and capital mobility. The comparative analysis of the three Asian miracle economies confirms that effective use of tax incentives critically hinges on country-specific factors and priorities, defying excessive generalization.

The discussion below is organized as follows. Section 2 provides an alternative case for the use of tax incentives, focusing on their base-protecting roles in countries facing enforcement difficulties. Section 3 examines the implications of international capital mobility for the corporate tax base, focusing on tax competition through incentives and base erosion by multinational's choice of profit location. Section 4 presents a case study featuring three East Asian miracle countries: Hong Kong, China; Singapore; and the Republic of Korea, all of which have created remarkable economic success during the past decades. Section 5 discusses key policy implications of the analysis, and Section 6 provides conclusions.

2. Enforcement difficulties and the second-best policy

The tax level and structure are influenced by the nation's policy objectives, economic structure and administrative capacity. In the early stages of economic development, growth objectives are a dominant force shaping the tax system in most countries. In the interest of promoting economic growth, raising sufficient revenue to finance public infrastructure is a primary concern of tax policy, but the government's ability to collect taxes hinges on the extent of information available to it on the earnings of firms and individuals. To the extent that transactions are made in cash, leaving no paper trail, tax enforcement is not easy. Thus, information is at the root of enforcement problems, including issues of corruption as described in the previous section.

The conventional recommendations for the optimal design of tax policy typically ignore, though, the complications created by the presence of an informal economy and problems arising from tax evasion. Taxes not only discourage labour supply and savings but can also induce greater effort to evade taxes and can push more activity into the informal sector, even at real economic costs. These additional sources of potential inefficiencies in response to taxes force a re-evaluation of the tax system observed in developing countries. As shown in table 3.1, observed tax structures among developing countries are sharply different from those seen in developed countries and those recommended by the optimal tax literature (the personal income tax (PIT) as the major source of tax revenue, low tariffs and inflation and no intersectoral distortions). The role of PIT, though, is minor relative to corporate income tax (CIT), and tariffs remain an important source of tax revenue in developing countries.

Table 3.1
Tax structure in developing and developed countries, 2013

	Tax revenue	Personal income tax and social security contributions	Corporate income tax	Consumption taxes	Property taxes	Border taxes	Shadow economy
	% GDP	% of total tax revenue					% GDP
Developing countries average ^{1,2}	24.5	27.1	14.8	45.4	2.1	7.2	39.3
Developed countries average ^{1,2}	34.1	49.3	9.9	33.5	4.0	0.3	20.2

Source: IMF, Government Finance Statistics; Hassan and Schneider (2016).

Notes:

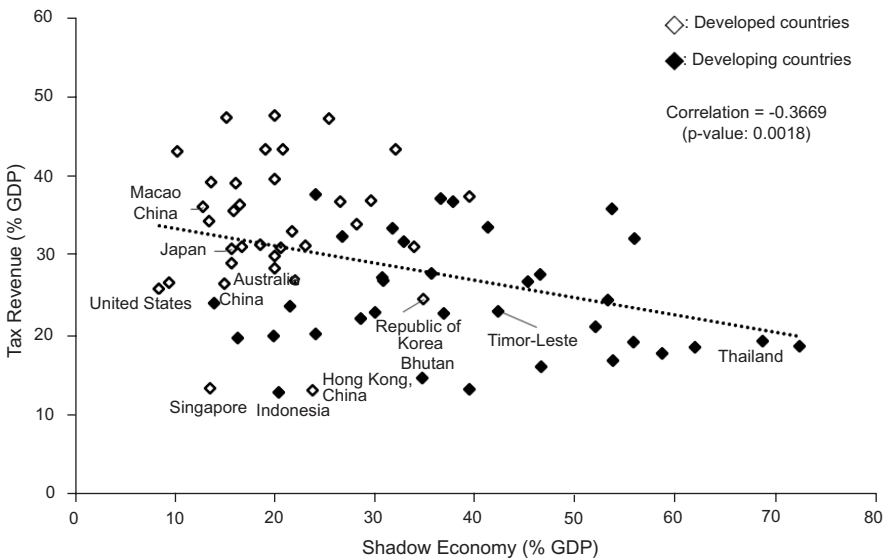
1. Unweighted averages
2. Countries are classified according to IMF (2016b) classification: 39 developing countries and 35 developed countries.

Tax revenue as a fraction of GDP is low in developing countries, reaching roughly two-thirds of that for developed countries as a group. The lower tax revenue figure does not seem to reflect differences in statutory tax rates between developed and developing countries, with top personal and corporate tax rates not much higher among developed countries.⁴⁷ Instead, the revenue difference largely reflects differences in the size of the informal economy. Its estimated size, at around 39.3 per cent of GDP, is much larger in developing countries as a group than in developed countries

⁴⁷ See table 3.8 for tax rates of selected Asia-Pacific countries.

(20.2 per cent).⁴⁸ This implies that reducing evasion and informal activity should be a central concern in tax policy for developing countries. As seen from figure 3.1, tax revenue is negatively correlated with the size of the shadow economy among sample countries. The existing literature also notices the potential negative effects of the shadow economy on tax revenue (Schneider and Enste, 2000; Bird et al., 2008), though evidence based on direct estimation is limited.⁴⁹

Figure 3.1 Shadow economy and tax revenue, 2013



Source: IMF, Government Finance Statistics; Hassan and Schneider (2016).

Note: Countries are classified according to IMF (2016b) classification: 35 developed countries and 35 developing countries.

While the optimal tax literature recommends avoiding any intersectoral distortions in production (Diamond and Mirrlees, 1971), effective tax rates could reasonably be different across sectors once the presence of the informal sector is taken into account.⁵⁰ Specifically, variation in tax rates by industry might be appropriate, given differences across industries in the ease with which firms can shift into the informal sector. Tax rates will be kept low in sectors where firms can easily shift into the

⁴⁸ See appendix 3.1 for selected country data.

⁴⁹ Kodila-Tedika and Mutascu (2013) provide a regression result among African countries, confirming the negative revenue effects.

⁵⁰ See Gordon and Li (2009) for a more rigorous exposition of this hypothesis.

informal sector, while tax rates may be high, to compensate for lost revenue, in sectors where firms have little opportunity to operate in the informal sector.

The same logic can apply to firms within a given industry. For example, capital-intensive firms in a manufacturing sector cannot easily operate in the informal sector, since equipment and structures can be easily detected by tax authorities. In addition, large firms tend to show high compliance because they rely on the services of financial institutions for their transactions, thereby leaving observable trails to tax authorities. By imposing higher taxes on these large and/or capital-intensive firms, taxes can be lowered for the remaining firms to help keep them in the formal sector. This implies shifting the tax burden from labour to capital income, partly explaining the importance of the corporate tax in developing countries. Tax compliance can also vary between domestic and foreign firms. Multinationals typically pay less tax than domestic firms through their use of transfer pricing and other schemes, so that effective tax rates can vary between these two groups as well.

Base-protection roles of tax incentives

These differential tax rates by type of firm introduce distortions discriminating large capital-intensive domestic firms against small domestic firms and multinationals. To the extent that these distortions can be offset through other policies favouring those firms that are paying more in taxes, there can be a resulting efficiency gain. For example, firms bearing more tax burden can be given easier access to bank loans or other government privileges, as seem to be the practice in many developing countries.⁵¹ Also, investment incentives that appear to be more generous than warranted by their perceived effects on marginal investment can effectively have a base-protecting role of keeping firms from shifting abroad or engaging in tax evasion. In this case, the revenue cost of incentives applies only to new investment whereas the base-keeping benefit applies to old capital as well. In addition, multinationals may face restrictions when operating in sectors where domestic firms face relatively high effective tax rates.⁵²

⁵¹ In the Republic of Korea, for instance, credit was directed in favor of export-oriented manufacturing firms; implicit loan guarantee enabled large firms to be heavily leveraged, generating interest deduction benefits (Jun, 2010).

⁵² For example, multinationals can face requirements on ownership (a minority partner) of a domestic company. Since the domestic partner with the controlling interest does not benefit from transfer pricing, tax evasion through transfer pricing may be reduced as a result.

Tax incentives and related instruments can also help protect smaller firms from disappearing into the informal sector. The informal sector presumably consists largely of self-employed individuals, whose firms are small enough to avoid monitoring by the tax authorities. According to World Development Indicators, the rate of self-employment in developing countries is substantial (37.4 per cent in 2013) even of the formal labour force, and is much higher than the rate in developed countries (14.3 per cent).⁵³ They must comprise a much larger fraction of the overall labour force, once those working in the informal sector are counted. Given the difficulties of monitoring the activity of the self-employed, many countries impose presumptive taxes for small firms, with the effective tax rate lower than for larger firms. The lower effective rates for small firms could help reduce evasion, which may result in revenue gains on net.

For instance, the Korean Government has implemented simplified tax schemes under which value-added is estimated to be equal to some specified fraction of a firm's turnover, with the fractions specified in the statutes varying by industry.⁵⁴ Among the firms using this simplified scheme, actual value-added as a fraction of turnover is higher than is allowed under the statute in most industries. This scheme may be an appropriate compromise, given the ease with which these small firms can shift into the informal sector, but it can also give firms an incentive to underreport their sales to qualify for the simplified value added tax (VAT). To reduce this distortion, the Government provides a tax credit for qualifying firms that voluntarily forego using the simplified scheme. The low compliance and preferential treatment of the self-employed, though, raised the issue of horizontal equity between employees and the self-employed, prompting the Government to provide very generous tax subsidies to wage and salary workers.⁵⁵ Such tax breaks have certainly contributed to the narrow PIT base, though.

As a more fundamental solution to the monitoring problem, the Korean Government introduced tax subsidies for use of credit cards in late 1990s. Since then, credit card usage has dramatically increased, enhancing the Government's ability to monitor transactions and putting pressure on firms in the informal sector to allow customers to use credit cards. Over the first ten years with this policy in use, credit card usage has increased from a minimal level to over 70 per cent of consumption expenditures in the

⁵³ These figures are the average for 50 developing countries and 36 developed countries for which data were available.

⁵⁴ See Gordon and Jun (2013) for a detailed description of this system and other related policies.

⁵⁵ In addition to the standard and itemized deductions as observed in other countries, various tax breaks were introduced such as an initial wage deduction, a special wage credit, and basic and extra exemptions for family members.

Republic of Korea. Given the success of credit card subsidies, the Government extended such subsidies to those cash transactions where a receipt is issued that is electronically reported to the tax authorities, again making evasion more difficult. In summary, the Korean example shows that tax incentives can be used not just for investment and employment but for base-protection roles per se. After all, it is an empirical question whether such policies are cost-effective.

Backstop roles of the corporate income tax (CIT)

While the above argument explains various ways through which tax incentives can help keep firms in the formal sector, CIT per se can play a role in keeping small firms from shifting into the informal sector. Owners and managers may leave their labour income within the company if the effective corporate (plus capital gains) tax rates are lower than the personal tax rates faced by them.⁵⁶ Gordon and Slemrod (2000) report evidence that the reported corporate profit rates were very sensitive to the difference in the tax rates in the United States, which suggests that this tax differential generates sizeable income shifting between PIT and CIT bases.

While such income shifting certainly incurs efficiency costs, the low corporate tax rate may provide an incentive for owners of small firms to remain in the formal sector. For them, the benefit of operating in the formal sector and being incorporated may exceed the corporate tax due on them. For tax authorities, having their labour income subject to low corporate rates might be a better option than pushing them into the informal sector.

Such income shifting may be an additional explanation for why the corporate tax in many developing countries yields so much revenue relative to PIT. In this case, though, the corporate tax is imposed not on returns on capital but effectively on labour income. While this backstop role of the corporate tax is important in countries facing enforcement difficulties with personal income, such tax differentials need to be reduced for efficiency reasons in the long run. In particular, reducing the incentive for corporate managers to leave their earnings within a firm may result in an efficiency gain.

⁵⁶ Any difference in effective tax rates on personal and corporate income creates an incentive to concentrate expenses where tax rates are high and income where tax rates are low. For example, when the corporate tax rate is higher, firms will make more extensive use of debt finance, with interest deductions against the higher corporate tax rate and associated interest income taxable at the lower personal tax rate.

3. International capital mobility and the corporate tax base

As described in the previous section, CIT is an important revenue source in developing countries. In a globalized world, however, this base is likely to face erosion pressure as corporate activities become more mobile across national borders. This section describes the implications of international capital mobility for the corporate tax base, with attention to tax competition among countries and profit shifting by multinationals.

The optimal tax literature suggests that a small open economy should not impose any tax on the return to capital invested in the country (Razin and Sadka, 1991). Investors will remain in the country only if the after-tax rate of return on their investment is as large as that available elsewhere in the world. Capital flows out in response to a tax until the reduced capital stock leads to an offsetting increase in the pre-tax rate of return to capital. In that process, equilibrium wage rates in the country drop, assuming labour is an immobile factor, reflecting the lower productivity due to the reduction in capital stock. A tax on the return to capital invested in a country then falls on domestic workers (or other immobile factors), which not only discourages labour supply but also hampers capital accumulation in the country. Such a tax is dominated by a higher tax on labour income on efficiency grounds.

Note, however, that this argument against taxation of the return to capital invested in a small open economy does not deny the presence of CIT *per se*. A corporate income tax with expensing for new investment does not impose any tax on the return to investment.⁵⁷ Instead, the tax can serve as a backstop to PIT, imposing an additional tax on some types of labour income (self-employed income and compensations for corporate managers) that would otherwise escape full taxation under PIT, as discussed in the above section.

The role of CIT in taxing inframarginal profits or rents is also important. In a closed economy, a tax on pure profits will be non-distortionary in that it would not change the investor behaviour as long as after-tax profits are still positive. Thus, unlike a tax on the normal return to capital, a rent tax does not change the investment level. In an open economy, the effects of a rent tax on domestic investment depend on the mobility of the economic activity that generates the rent. To the extent that

⁵⁷ While expensing by itself does not distort investment behavior, an additional use of tax incentives linked to new investments would lead to misallocation of resources.

rents are internationally mobile, any tax on them would reduce the level of domestic investment.

To understand the economic effects of the taxation of rents, it is important to know where those rents come from. If rents are generated by entrepreneurial activity like a technological innovation, they are likely to be mobile and sensitive to relative tax rates in different locations. If the source of rents is location-specific, as in the case of the extraction of natural resources, market access or other privileges earned through local connections, uniqueness in labour or infrastructure or agglomerations effects (Baldwin and Krugman, 2004), such rents can be more readily taxable at the local level. Moreover, such locally embedded rents can serve as a means of exporting part of the domestic tax to foreign investors to the extent that foreigners own the domestic capital stock (Huizinga and Nielsen, 1997; Mintz, 1994).⁵⁸

Accordingly, the effectiveness of tax incentives for FDI is likely to be affected by the source of the potential rents available in the host country.⁵⁹ For location-specific rents, tax incentives might play a modest role since foreign firms have no choice but to operate in that particular location to earn them. If prospective rents are more of the firm-specific (mobile) type, on the other hand, the local government may find it beneficial to provide tax incentives to attract FDI. In addition, the rent potential in the host country has an implication for the way tax incentives take effect in combination with investment climates, as described in table 3.2. Noting that tax is one of the many factors that influence the investment location of multinationals, tax incentives can be effective but possibly redundant for a country with high rent potential plus strong investment climates. Incentives may have stronger marginal effects in cases where either rent potential or investment climate is weak in the host country. If a country is well stocked with natural resource but suffers weak non-tax factors, tax incentives may have a compensating effect on foreign investment at the margin. Similarly, if a country has relatively strong investment climates but suffers weak rent potential, it may use tax incentives as a compensating device to attract foreign investment. Even in the worst case of weak investment climates coupled with low rent potential, tax incentives can be a useful instrument in that they can have a signalling effect on prospective

⁵⁸ It is an empirical question if reported corporate profits represent a normal return to capital invested in the corporate sector or other forms of income including rents.

⁵⁹ In addition, even in the absence of legal barriers and economic risks, capital may not be perfectly mobile due to adjustment costs of physical capital.

Table 3.2
Incentive effects by investment climate and rent potential

	Strong investment climates	Weak investment climates
High rent potential	<ul style="list-style-type: none"> Likely effective but can be redundant (infra-marginal subsidy) 	<ul style="list-style-type: none"> Possibly <i>compensating</i> effects at the margin
Low rent potential	<ul style="list-style-type: none"> Likely effective at the margin 	<ul style="list-style-type: none"> Ineffective but little revenue cost Signaling effects in the long run

investors at a relatively small cost. Note that an ineffective incentive in general implies lower revenue costs.⁶⁰

The above observation seems to mitigate, to some extent, the negative impression associated with the practice of using tax incentives as a means of compensating for weak investment climates among developing countries. The conventional wisdom that the incentive effects increase with stronger investment climates may be technically correct, but seems to be too simplistic as a policy prescription. Of course, this taxonomy omits other possible determinants of FDI, but it illustrates that if the government properly responds to country-specific initial conditions, it can more effectively exploit tax incentives than suggested in the literature.⁶¹ In the process, some form of tax competition might take place among countries of similar traits, but it would not likely lead to a significant base erosion.

The corporate tax base can be eroded by income shifting schemes employed by multinationals. Besides the production location, multinationals have an opportunity to choose the location of profit to the extent that law and regulations allow. Facing different statutory tax rates in the jurisdictions where they have operations, they have an incentive to use transfer pricing to concentrate expenses in the country with the higher tax rate and income in the country with the lower tax rate. This type of income shifting typically occurs after they take full advantage of tax allowances available in a jurisdiction where they have an operation. The resulting pressures from such income shifting have been a major concern in the design of tax policy in OECD countries (OECD, 2013). They have enacted special provisions to limit that income shifting undertaken through the location of debt finance and R&D, and there are further special provisions to limit the shifting of income to tax havens. In addition, countries are under pressure to lessen the difference in effective tax rates on income

⁶⁰ Other social costs can still exist since incentives may complicate the tax structure.

⁶¹ This chapter does not address the details related to taxing foreign source income such as foreign tax credit and 'tax sparing.' As reported in Hines and Hubbard (1990), the attempt to impose domestic corporate tax on foreign source income has been largely ineffective in the United States. In this case, tax incentives can take effect even if foreign firms are in an 'excess credit' position in their home country.

reported by the parent at home or by a subsidiary operating abroad, in order to lessen the incentives to shift income abroad. These pressures, though mostly a concern of advanced countries so far, are likely to play an increasingly important role in future discussions of tax policy in developing countries as well.

The preceding discussion demonstrates that in analysing the tax effect on the behaviour of multinationals, different tax measures need to be considered depending on the nature of their decisions. The choice of profit location is affected largely by the statutory tax rates as discussed above. Nevertheless, the choice of investment or production decision is affected by the average effective tax rate that reflects both the statutory tax rate and investment incentives. In addition, the company decides how much to invest in a given production site, where the effective marginal tax rate is the relevant measure. A company invests up to the point where the marginal product of capital equals the user cost of capital like in a closed economy setting.⁶²

4. The cases of Hong Kong, China; Singapore and the Republic of Korea

This section presents a case study comparing the incentive policy in three Asian miracle economies: Hong Kong, China; Singapore; and the Republic of Korea. Explanations for their success typically highlight common ingredients, including export promotion, a well-trained labour force and entrepreneurship linked with government policy to name a few. Yet there is relatively little comparative evidence on their tax policies. While their tax policies are largely growth-oriented, the specific strategies vary significantly between these economies. Hong Kong, China has maintained a market-friendly tax policy with a simple, low-rate tax structure. Singapore has been very proactive in providing foreign investors with investment-friendly environments including generous tax incentives. By contrast, the incentive policy of the Republic of Korea seems to have focused on supporting local companies with an implicit aim of protecting its tax base. Table 3.3 compares economic and tax structure among the three.

As a free port and global financial hub, the trade and finance sectors are the most important contributors to GDP in Hong Kong, China. Its manufacturing share in GDP was only 1.4 per cent, much lower than the level observed in Singapore (17.4 per cent) and the Republic of Korea (28.2 per cent) as of 2013. The sectoral distribution of FDI and tax revenue is

⁶² This chapter does not address this aspect of tax incentives, which generally does not distinguish domestic and foreign firms.

Table 3.3
Economic and tax structure in Hong Kong, China; Singapore and the Republic of Korea, 2013

	Hong Kong, China			Singapore			Republic of Korea		
	% GDP	% TAX	% FDI	% GDP	% TAX	% FDI	% GDP	% TAX	% FDI
Economic structure									
GDP at current prices	100.0			100.0			100.0		
Total CIT ¹ and GST/VAT ²		100.0			100.0			100.0	
Total FDI (stock)			100.0			100.0			100.0
Goods producing industries	7.0	n.a.	2.4	23.6	20.0	18.1	37.2	46.2	43.5
Manufacturing	1.4	5.6	0.8	17.4	8.2	17.7	28.2	30.7	39.6
Construction	3.9	n.a.	1.6	4.7	8.3	0.4	4.5	9.4	1.7
Utilities	1.6	n.a.	–	1.4	2.5	–	2.1	5.8	2.0
Agriculture, fishing, mining and quarrying	0.1	n.a.	–	0.0	1.0	–	2.3	0.3	0.2
Services producing industries	91.2	n.a.	97.6	70.5	80.0	81.9	54.0	53.8	56.5
Import/export, wholesale and retail trades	24.5	24.9	10.0	17.2	24.3	17.2	8.1	19.6	12.0
Transportation and storage	5.9	n.a.	1.9	6.6	4.9	3.8	3.3	2.3	2.2
Accommodation and food services	3.5	n.a.	0.3	2.0	2.8	0.4	2.4	2.9	4.3
Information and communications	3.6	n.a.	0.7	3.8	4.9	1.1	3.5	n.a.	1.0
Finance and insurance	16.2	45.6³	n.a.	10.9	17.5	48.1	5.1	7.8	17.2
Others ⁴	27.2	n.a.	n.a.	25.7	25.7	11.3	31.6	20.0	19.8
Ownership of premises/dwellings	10.3	–	–	4.3	–	–	–	–	–
Taxes on products							8.8		
Statistical discrepancy	-1.7			–			–		
Exports				192.4			53.9		
FDI inflow				28.3			1.1		
FDI stock				231.0			16.6		
	% GDP	%TAX	Top rate	% GDP	%TAX	Top rate	% GDP	%TAX	Top rate
Tax structure									
Total tax revenue	13.4	100.0		13.6	100.0		24.9	100.0	
Personal income tax and social contributions	2.8	21.1	15.0	2.0	15.1	20.0	11.0	44.0	41.8
CIT	5.7	42.5	16.5	3.8	28.0	17.0	3.1	12.4	24.2
GST or VAT	–	–	–	2.5	18.6	7.0	4.4	17.7	10.0
Memorandum									
Shadow economy (% GDP)	23.7			13.4			34.8		
Corruption perceptions index ⁵ (Score, out of 100)	75.0			86.0			55.0		

Source: Census and Statistics Departments, Hong Kong, China; Inland Revenue Department, Hong Kong, China; Department of Statistics of Singapore; Inland Revenue Authority of Singapore; Bank of Korea; Ministry of Trade, Industry, and Energy, Republic of Korea; IMF, Government Finance Statistics; World Bank, World Development Indicators; KPMG; Hassan and Schneider (2016); Transparency International (2013), Corruption Perceptions Index.

Table 3.3 (continued)

	Hong Kong, China			Singapore			Republic of Korea		
	% GDP	% TAX	% FDI	% GDP	% TAX	% FDI	% GDP	% TAX	% FDI

- Notes:**
1. CIT stands for corporate income tax. Hong Kong, China: final tax assessed; Singapore: net tax assessed; Republic of Korea: total tax payable.
 2. GST stands for goods and services tax. VAT stands for value added tax. Hong Kong, China: no GST/VAT; Singapore: net GST contribution; Republic of Korea: adjusted tax payable.
 3. Includes property, investment and finance, banking, insurance companies and insurance agents.
 4. Hong Kong, China: real estate, professional and business services, public administration, social and personal services; Singapore: business services and other services; Republic of Korea: real estate and leasing, business activities, public administration and defence, education, health and social work, cultural and other services.
 5. The Corruption perceptions index standardizes data sources to a scale of 0-100 where a 0 equals the highest level of perceived corruption and 100 equals the lowest level of perceived corruption (Corruption Perceptions Index 2013).

roughly comparable to that of GDP in all three countries with the share of service industries much larger in Hong Kong, China; and Singapore than in the Republic of Korea. Reflecting their export-oriented economic structure, exports as a fraction of GDP are very high, reaching around 200 per cent in Hong Kong, China; and Singapore. Notable is the sharp difference in the importance of FDI between the Republic of Korea and the other two, which may reflect differing strategies with respect to promoting investment and protecting tax base. Tax revenue as a ratio of GDP is much higher in the Republic of Korea at 25 per cent, versus the level of 13 per cent in Hong Kong, China; and Singapore. The share of CIT is high by international standards among all three while its importance is more remarkable in the two city-states. Also, Hong Kong, China; and Singapore earned high marks in the corruption perceptions index while the Republic of Korea is lagging way behind. The size of the shadow economy is also very large in the Republic of Korea while that in Singapore is close to the average of advanced countries.

Taxation is a major tool for government intervention in the markets. Hong Kong, China has maintained a liberal, non-interventionist stance with a simple tax regime with low and uniform tax rates. Top personal and corporate tax rates are 15 per cent and 16.5 per cent, respectively, and there is no general sales tax like a VAT. Tax revenue is accounted for mostly by taxes on income and profits (more than 60 per cent) and taxes on financial and capital transactions.⁶³ While tax incentives are available to promote certain targeted activities (appendix 3.5), they are within the bounds of

⁶³ Taxes on income and profits and taxes on financial and capital transactions accounted for 63.6 per cent and 14.5 per cent of total revenue as of 2013, respectively (appendix 3.4).

neutrality and level playing field without discriminating domestic and foreign residents. To attract foreign investors, Hong Kong, China has put an emphasis on improving general investment climate instead of introducing distortionary tax preferences like tax holidays. As seen in table 3.4, the list of investment incentives is short relative to those observed in Singapore and the Republic of Korea. In a way, Hong Kong, China's tax policy seems more market-friendly than other rich countries in that it focuses on minimizing the efficiency costs of distortionary taxes, even to the point of being called a tax haven.⁶⁴

In sharp contrast to Hong Kong, China, Singapore has made aggressive use of investment incentives as part of its growth strategy since its early stage of development. Facing a relatively unfavourable environment – economic as well as geographical – after independence, a broad-based incentive framework has been applied to almost every manufacturing and financial activity (Phua and Halkyard, 2012).⁶⁵ While those incentives were streamlined later to support more targeted activities like entrepreneurship and R&D,⁶⁶ they are still prevalent across sectors and activities as seen in table 3.4 and appendix 3.6. This change in the focus of tax incentives has been accompanied by a steady decline in statutory corporate tax rates since the mid-1980s.⁶⁷ The corporate tax rate is now 17 per cent, one of the lowest levels in the world along with Hong Kong, China. A variety of non-tax factors, such as low level of corruption, political stability and well-educated labour, have contributed to favourable investment climates in Singapore, which was deemed critical in improving the efficacy of tax incentives, a trademark of Singapore's growth strategies.

The tax policy of the Republic of Korea for investment promotion in general and foreign investment in particular, including various allowances and credits, does not seem to be much different from those observed in other countries though not as aggressive as in Singapore, as seen in table 3.4 and appendix 3.7. Its effectiveness in attracting foreign investment, however, is quite questionable compared to the case of Singapore. The low level of FDI in the Republic of Korea has been puzzling since FDI has the potential not only to provide an additional source of capital, but also to provide access to the latest technologies and forms of management and

⁶⁴ In fact, the European Union included Hong Kong, China in the first list of tax havens.

⁶⁵ Singapore has recently tried not to be called a tax haven by strengthening regulations on transfer pricing and information sharing.

⁶⁶ In Singapore, about 6 per cent of total R&D is financed by foreign business enterprises, which amounts to about 10 per cent of total business R&D in Singapore (OECD, Main Science and Technology Indicators).

⁶⁷ The statutory corporate tax rate was 40 per cent for more than two decades.

Table 3.4
Investment incentives in Hong Kong, China; Singapore and
the Republic of Korea

Classification	Type of Incentive	Hong Kong, China	Singapore	Republic of Korea		
Activity	Investment	• Tax credit		0		
		• Tax deduction		0		
		• Investment allowance	0	0		
		• Tax reduction and exemption for companies closing overseas business places and returning to homeland			0	
		• Reduced withholding tax		0		
	Activity	FDI	• Tax holiday		0	
			• Exemption for local taxes		0	
			• Stamp duty relief	0	0	
			• Reduced corporate tax rate		0	
			• Deduction for qualifying expenditure		0	
• Grants				0	0	
Activity		R&D	• Free Trade Zone		0	
			• Exemption for income from technology acquisition		0	
			• Non-taxation on capital gains of venture capital			0
			• Tax credit			0
	• Deduction for qualifying expenditure		0	0	0	
	• Investment allowance			0		
	• Reduced or nil withholding tax rate			0		
Sector	Manufacturing /Service	• Cash rebate	0			
		• Grants	0	0		
		• Tax exemption		0		
		• Investment allowance	0	0		
		• Tax credit			0	
		• Deduction for qualifying expenditure			0	
	Trading	• Reduced corporate and withholding tax rate		0		
		• Grants		0		
		• Reduced corporate tax rate		0		
	Financial service	• Zero GST or zero-rate		0	0	
		• Tax exemption(offshore)	0	0		
		• Reduced corporate tax rate	0	0		
		• Stamp duty concession	0	0		

Table 3.4 (continued)

Classification	Type of Incent	Hong Kong, China	Singapore	Republic of Korea
Corporate tax rate (2013)		16.5%	17%	10, 20, 22%
Foreign source income		Territorial	Territorial*	Worldwide

Source: IBFD; Deloitte; PricewaterhouseCoopers; Economic Development Board; Hawksford; Steven Tan Russell Bedford PAC; Legislative Council of Hong Kong, China; Ministry of Strategy and Finance, Republic of Korea.

Note: *Tax is imposed on all income accrued in or derived from Singapore and all foreign income remitted or deemed remitted to Singapore, subject to certain exceptions (Deloitte, 2017).

corporate governance in use elsewhere in the world.⁶⁸ Foreign capital has been imported largely in the form of loans during the decades of fast economic growth, which were redirected through state-controlled banks to domestic firms.⁶⁹ Direct evidence on the reasons for this avoidance of direct foreign ownership of local firms is not available, but it might have helped to protect tax revenue, since multinationals tend to pay lower taxes through income shifting across borders. The Government has employed various explicit or implicit restrictions on foreign firms in areas where they compete with domestic conglomerates, rendering a weak investment climate for foreign investors.

Table 3.5 compares estimates of the investment climate based on surveys of foreign operations among the three countries. In most areas, the Republic of Korea is significantly lagging behind the other two. For example, foreign investors find it more difficult to acquire control in local companies and set up a new facility in the Republic of Korea than in Hong Kong, China; and Singapore. Foreigners seem to feel discriminated against in government contract bidding, regulations, subsidy policies and access to local capital markets. The investment climate for foreign investors in the Republic of Korea appears to be less attractive than the average of its neighbouring Asian countries including Japan and China. Not surprisingly, foreign investors find Hong Kong, China; and Singapore to be very attractive locations on almost all counts. There is quite a contrast though in the government role. While Hong Kong, China maintains a liberal, open approach to economic activity, putting itself on the very top of economic freedom indices worldwide, Singapore has pursued very interventionist policies, along with the Republic of Korea, as illustrated in the tax incentive policy. Notable is that Singapore excels in state efficiency items compared to its neighbours. This suggests that a given incentive is likely to be more cost-effective in Singapore than, say, in the Republic of Korea because

⁶⁸ Appendix 3.3 compares FDI in selected countries.

⁶⁹ Trade deficits reached almost 10 per cent of GDP in the 1970s, which financed imports of machinery equipment needed for promoting heavy and chemical industries.

Table 3.5
Investment climate in Hong Kong, China; Singapore and the Republic of Korea

Index	Hong Kong, China	Singapore	Republic of Korea	13 country average ¹
Investment climate for foreign investors				
• Public sector contracts are sufficiently open to foreign bidders	7.6	7.7	4.8	6.1
• Investment incentives are attractive to foreign investors	7.5	7.8	5.2	6.3
• Ease of doing business is supported by regulations	8.0	8.2	5.0	5.8
• Number of days to start a business*	2.5	2.5	4.0	18.3
• Number of procedures to start a business*	3.0	3.0	5.0	6.4
• Protectionism does not impair the conduct of your business	8.0	6.8	5.3	6.3
• Foreign investors are free to acquire control in domestic companies	8.8	7.8	6.0	6.2
• Capital markets (foreign and domestic) are easily accessible	8.8	8.1	6.5	7.1
• Subsidies do not distort fair competition and economic development	7.7	6.9	5.5	5.6
• State ownership of enterprises is not a threat to business activities	7.8	6.5	5.9	6.3
State efficiency				
• The legal and regulatory framework encourages the competitiveness of enterprises	7.7	7.6	4.9	5.6
• Adaptability of government policy to changes in the economy is high	5.8	7.7	4.8	5.3
• Government decisions are effectively implemented	5.4	7.8	4.7	4.8
• Transparency of government policy is satisfactory	5.9	7.3	4.7	5.0
• Bureaucracy does not hinder business activity	5.9	6.4	4.3	4.0
• Bribery and corruption do not exist	6.9	8.2	4.7	4.7

Source: IMD (2013), *IMD World Competitiveness Yearbook 2013*.

Notes: 1. Countries included: Australia; China; Hong Kong, China; India; Indonesia; Japan; Republic of Korea; Malaysia; New Zealand; Philippines; Singapore; Taiwan Province of China; Thailand.
 2. Indicators are expressed as scores on a 0-10 scale, unless otherwise annotated with an asterisk (*), with 10 being the most desirable outcome.

administrative costs and corruption possibilities associated with tax incentives might be much lower in Singapore.

The above discussion seems to confirm that strong investment climates are an important factor in attracting FDI. Hong Kong, China has been successful in inviting foreign investors without much support from the tax system though tax incentives are offered to some targeted areas.

Singapore is the case where aggressive investment incentives are combined with investment-friendly policy environments, though the specific empirical evidence on incentive effects is not available. As mentioned in Section 3, tax incentives might be overused in the case that non-tax factors are strong enough to attract FDI. In fact, Singapore has adjusted its incentive policy from an aggressive, broad-based incentive scheme at earlier stages of development when its competitive advantage was limited, to a more target-based one coupled with lower statutory tax rates in the mid-1980s when it already became an attractive investment location. In the Republic of Korea, however, the presence of rather generous investment incentives has not impressed prospective foreign investors. Despite the statutory neutrality between domestic and foreign firms, most investment credits and allowances seem to have been at the disposal of local companies. Considering the status of the Republic of Korea as a manufacturing powerhouse, it is hard to dismiss the role of tax incentives in the process of capital accumulation regardless of the evaluation of their effectiveness.

As seen in table 3.6, a large fraction of revenue originates from a few large firms, with the top 0.05 per cent accounting for more than half of the total corporate tax in the Republic of Korea. Singapore also shows a high concentration of corporate taxable income, though to a lesser degree. As discussed in Section 2, large firms find it very difficult to bypass services of financial institutions, resulting in a lower rate of evasion.⁷⁰ Large firms then have an incentive to cooperate with the government on tax compliance in exchange for various tax and non-tax benefits including generous

Table 3.6
Distribution of CIT in Singapore and the Republic of Korea, 2013

	Singapore			Republic of Korea			
	Percentage	Number of companies	Tax paid (%)	Percentage	Number of companies	Tax paid (%)	
Top	3.4	2 049	83.5	Top	0.01	54	38.6
	4.0	2 392	85.4		0.05	235	57.3
	4.9	2 963	87.8		0.2	931	71.5
	6.4	3 895	90.6		0.7	3 344	81.6
	10.0	6 062	94.2		1.5	7 741	87.3
	14.7	8 925	96.4		5.4	27 900	94.2
	19.2	11 640	97.4		12.2	63 320	97.3
Total	100.0	60 535	100.0	Total	100.0	517 805	100.0

Source: Author's calculation based on National Tax Service (2014), *Statistical Yearbook of National Tax* and Department of Statistics (2014), *Yearbook of Statistics Singapore*.

⁷⁰ Capital-intensive firms are presumably more closely tied to the financial sector because their needs to raise capital make bank loans valuable.

incentives, easy access to credit and implicit loan guarantees. As mentioned before, the Republic of Korea has attempted to protect its tax base by supporting the local firms operating in the formal sector instead of relying on an FDI-driven growth strategy. In the process, foreign firms might have been discriminated against, explicitly or implicitly, through a variety of regulations and a close relationship between the Government and local companies. Even lack of transparency seems to have worked against foreign firms disproportionately. Wei (2000) reports evidence that corruption in host countries distorts the composition of inward capital flows – away from FDI and toward bank loans. Using firm-level data in the Republic of Korea, Jun (2014) shows that a variety of quasi-taxes including entertainment expenses might have a significant ‘greasing’ effect on the sales of local companies.

5. Policy implications

This chapter has considered the implications of using tax incentives for the tax base in developing countries, especially in the context of enforcement difficulties and international capital mobility. Noting that the tax structure in developing countries reflects pressures stemming from the large size of the informal sector and the prevalence of tax evasion in the formal sector, it suggests alternative channels through which the use of tax incentives can help protect tax base at least in the interim period. In addition, the chapter argues that the efficacy of investment incentives in attracting FDI seems understated and the prospect of base erosion due to tax competition seems overstated. The case study of Hong Kong, China; Singapore; and the Republic of Korea implies that effective use of tax incentives critically hinges on country-specific factors and priorities, defying ‘one-size-fits-all’ best practices. While investment incentives may work well in conjunction with strong investment climates, their roles should not be precluded in countries with weak investment climates. This section presents a summary of policy implications drawn from the previous sections.

As discussed in Section 2, conventional recommendations for tax incentives are based on the optimal tax theory and the empirical, though limited, evidence on their effectiveness. This chapter suggests that, on second-best grounds, tax incentives might play a role in protecting the tax base in countries facing evasion pressures. Specifically, it stresses the importance of preserving the corporate tax base which accounts for a significant share of total revenue in most developing countries.⁷¹ In the long-run, however, the corporate tax base is likely to face erosion pressures stemming from increased capital mobility across borders.

⁷¹ Note that part of corporate taxable income consists of earnings by entrepreneurs and corporate managers as described before.

Thus, the first step to broaden the tax base in developing countries would be to reduce informal activity and tax evasion so more economic activities are covered under PIT and a broad-based consumption tax. This direction for tax reform is in line with the experience of developed countries and the first-best implications of the optimal taxation literature.

As seen in table 3.7, the potential benefit of reducing evasion is huge among countries with a relatively large informal sector. The size of shadow economy was larger than tax revenue among many sample countries, such as more than three times larger in Thailand. If the whole informal activity were to be taxed at the same rate as in the formal sector, for example, Thailand's tax revenue in absolute terms would increase by 68.7 per cent. The base-broadening potential can be inferred by measuring the ratio of current revenue to the combined value of transactions in the formal and informal sector. The effective taxation of overall economic activity seems very low in Bhutan, Indonesia, Malaysia, the Philippines and Thailand, reaching the level in Hong Kong, China.

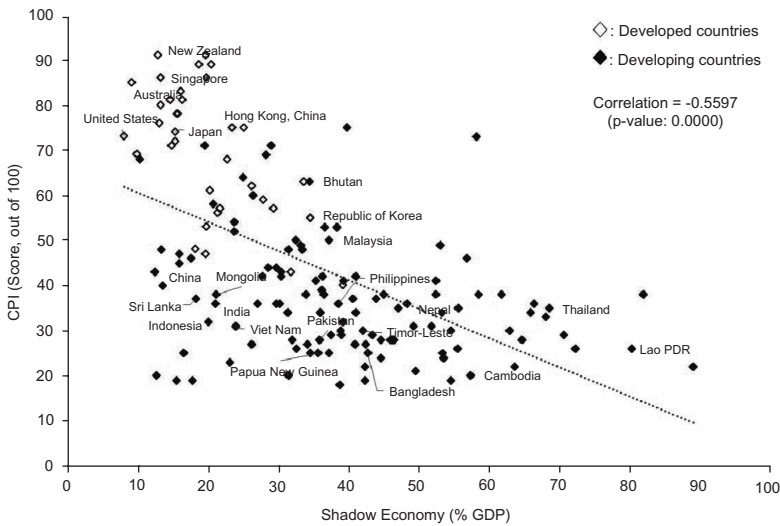
Table 3.7
Base-broadening potential in selected Asia-Pacific countries, 2013

	(1) Shadow Economy % GDP	(2) Total Tax Revenue	(3) (1)/(2) Ratio	(4) $\frac{(2) * 100}{(1) + 100}$ %
United States	8.3	26.1	0.3	24.1
Singapore	13.4	13.6	1.0	12.0
China	13.8	24.4	0.6	21.4
Australia	14.8	26.8	0.6	23.3
Japan	15.6	31.2	0.5	27.0
Indonesia	20.3	13.1	1.5	10.9
Mongolia	21.4	24.0	0.9	19.8
Hong Kong, China	23.7	13.4	1.8	10.8
Bhutan	34.6	15.0	2.3	11.1
Republic of Korea	34.8	24.9	1.4	18.5
Malaysia	37.4	16.3	2.3	11.9
Philippines	38.7	16.2	2.4	11.7
Timor-Leste	42.2	23.4	1.8	16.5
Thailand	68.7	19.6	3.5	11.6
Average	27.7	20.6	1.5	16.8
OECD average	20.7	33.8	0.7	28.1

Source: Hassan and Schneider (2016); IMF, Government Finance Statistics; OECD (2016), *Revenue Statistics in Asian Countries 1990-2014*; OECD (2015), *Revenue Statistics 1965-2014*.

Often, corruption and tax evasion feed each other. One major form of corruption is underreporting of taxable earnings by rich taxpayers in connivance with government officials. If the activities generating taxable income are more readily observable, both tax evasion and corruption can be reduced. Since the size of the informal sector critically hinges on the observability of economic activity, policies that reduce informal activity can also be effective in improving transparency. As seen in figure 3.2, the corruption perceptions index tends to be high among countries with a smaller size of shadow economy relative to GDP, with a correlation coefficient of -0.56. Often, the government tries to solve the problem of evasion and corruption by giving officials more enforcement power, but this policy is likely to backfire because unchecked power of those officials could invite more corruption. Rather, this chapter emphasizes the importance of improving the quality of information available to relevant authorities.⁷²

Figure 3.2
Shadow economy and Corruption Perceptions Index, 2013



Source: Transparency International (2013), Corruption Perceptions Index; Hassan and Schneider (2016).

- Note:**
1. The Corruption Perceptions Index aggregates data from different sources on perceptions of business people and country experts of the level of corruption in the public sector. In 2013, it was calculated using 12 different data sources from 11 different institutions captured within the previous two years. It standardizes data sources to a scale of 0-100 where 0 equals the highest level of perceived corruption and 100 equals the lowest level of perceived corruption.
 2. Countries are classified according to IMF (2016b) classification.

⁷² Sharing information among related government agencies is also helpful for this.

There are several policy options that give firms more of an incentive to operate in the formal economy (Gordon and Jun, 2013). Noting cash transactions are a major means of hiding activity, one immediate option to reduce evasion is to encourage use of credit cards or checks for transactions. Unlike use of cash, payments through a credit card leave a paper trail, facilitating the monitoring and taxing of an activity. As described in Section 2, tax subsidies for use of credit cards, along with similar subsidies for cash-receipts, have enabled the government to monitor transactions.⁷³ Another policy is to encourage more firms to be listed on the stock exchanges, by means of subsidies for example. Publicly listed firms are required to make credible accounting statements, which provide information that aids tax enforcement.⁷⁴ As another example, linking the social benefits such as social insurance and unemployment insurance more closely to the reported income under PIT may attract more firms to the formal sector. In addition, the widely used presumptive value-added tax for small firms among developing countries can be improved by using a better measure of taxable activity than gross sales for monitoring purposes.⁷⁵ To restore the self-enforcing power of a VAT, a presumptive surtax can be imposed on goods sold by firms in the formal sector to firms in the informal sector, so that downstream firms lose any tax advantage from being in the informal sector.

One related policy concern is entrepreneurial activity that takes place in the informal sector. Much of entrepreneurial activity likely occurs in start-up firms, and they are likely to be sensitive to the tax treatment of profits vs. losses. Noting that many start-ups in developing countries likely begin by operating in the informal sector, the lack of adequate loss-offsetting provisions in the formal sector will give a weak incentive for them to leave the informal sector. Thus, an appropriate treatment of business losses not only encourages entrepreneurial activity but also pulls start-up firms more quickly into the formal sector. One option is to allow small start-up firms to qualify for tax refunds when they have negative value-added or negative profits, with a proper monitoring scheme for screening fraudulent claims.

⁷³ Since the Government of the Republic of Korea successfully made use of this method, several neighboring countries in Asia, including Thailand and Indonesia, have introduced similar subsidy policies in the past decade.

⁷⁴ One related policy is to equate the accounting figures used in the profits and sales reported to shareholders and those reported to the tax authorities, which reduces the incentives for publicly traded firms to underreport their taxable income. See Kannianen and Södersten (1995) for an experiment in Sweden.

⁷⁵ Although the preferential tax treatment of small firms may be necessary in order to induce more firms to remain in the formal sector, this policy can incur costs such as splitting firms or underreporting gross sales. One alternative is to base the tax on the book value of the firm's capital.

Section 2 described misallocations that occur when the effective corporate tax rate differs from PIT rates faced by the firm's owners and managers. As seen in table 3.8, the corporate tax rate is unusually low relative to the top PIT rates in several Asia-Pacific countries, suggesting a potential efficiency gain from reducing this tax differential. Moreover, this differential has increased over the past decade in almost all sample countries. This probably reflects the decreasing trend in the corporate tax rate worldwide consistent with the 'low-rate and broad-base' suggestion of the optimal tax literature, further reinforced by tax competition pressures in an increasingly globalizing investment environment. This poses a tough question for many governments with respect to maintaining an appropriate balance among keeping firms in the formal sector, reducing the evasion

Table 3.8
PIT vs. CIT rate differentials in selected Asia-Pacific countries

	2006			2015		
	(1) PIT rate	(2) CIT rate	(1)-(2)	(1) PIT rate	(2) CIT rate	(1)-(2)
Taiwan Province of China	40.0	25.0	15.0	45.0	17.0	28.0
Japan	50.0	39.5	10.5	55.9	32.1	23.8
China	45.0	33.0	12.0	45.0	25.0	20.0
Australia	48.5	30.0	18.5	49.0	30.0	19.0
Republic of Korea	38.5	27.5	11.0	41.8	24.2	17.6
Thailand	37.0	30.0	7.0	35.0	20.0	15.0
Viet Nam	40.0	28.0	12.0	35.0	22.0	13.0
Papua New Guinea	45.0	30.0	15.0	42.0	30.0	12.0
New Zealand	39.0	33.0	6.0	33.0	28.0	5.0
Singapore	20.0	20.0	0.0	20.0	17.0	3.0
Bangladesh	25.0	30.0	-5.0	30.0	27.5	2.5
Philippines	32.0	35.0	-3.0	32.0	30.0	2.0
India	30.0	33.7	-3.7	34.6	34.6	0.0
Malaysia	28.0	28.0	0.0	25.0	25.0	0.0
Fiji	31.0	31.0	0.0	20.0	20.0	0.0
Hong Kong, China	16.0	17.5	-1.5	15.0	16.5	-1.5
Sri Lanka	-	32.5	-	24.0	28.0	-4.0
17 AP average	35.3	29.6	5.9	34.3	25.1	9.1
OECD average	42.3	27.3	14.6	43.6	24.9	18.4

Source: KPMG; OECD Tax database.

Note: Top statutory PIT rates including any sur-tax and combined CIT rates (central government and subcentral government, plus sur-tax) are reported, when data are available.

opportunity by closing the rate gap and following the worldwide trend of lowering corporate rates.⁷⁶

The case study presented in Section 4 confirms the importance of non-tax factors that comprise the overall investment climate in attracting FDI. In Hong Kong, China, market-friendly investment environments, including a simple tax system with low and uniform rates, were a dominating factor to attract foreign investors. In Singapore, the combination of aggressive investment incentives and favourable investment climates has turned out to be part of its successful growth strategy. In contrast, the experience in the Republic of Korea shows a case in which countries with relatively weak investment climates can still make good use of tax incentives. The Republic of Korea is the case where capital and technology have been accumulated mostly by domestic companies that can pay more in taxes than their foreign competitors. The potential role of tax incentives has sometimes been stretched beyond their purported goals, effectively serving as an incentive for firms not to shift their operations into the informal sector or abroad. As such, tax incentives with mostly inframarginal effects on investment, if properly combined with non-tax incentives, could possibly have a 'marginal' effect on keeping firms from succumbing to evasion temptations.

For many developing countries, FDI can be an important source of capital and technology. The literature, though, suggests that investment incentives might not be effective in attracting FDI unless they are accompanied by favourable supporting conditions. However, policies that could improve the investment climate such as those related to labour force and infrastructure may take time and budgetary expense, prompting governments to rely on tax breaks that are readily available and can be designed as target-based.

Moreover, as described in Section 3, there may be ways in which tax incentives can compensate for deficiencies in investment climate, contrary to the popular belief among fiscal experts. For example, investment incentives might have a marginal effect on FDI in a country that has prospective location-specific rents (natural resources or privileges bestowed by the host government) but suffers weak non-tax factors. A country that has a good investment climate but suffers weak rent potential can also use tax incentives as a compensating device to attract foreign investment. Even for countries with weak investment climates and low rent potential, tax

⁷⁶ There are several revenue-neutral ways to reduce the differential in statutory personal and corporate tax rates such as introducing expensing for new investment while increasing the statutory corporate rate or cutting wage subsidies while lowering personal tax rates.

incentives can still be cost-effective because they have a long run signalling effect without much foregone revenue. Rather, countries with strong investment climates and rent potential may have to worry about the redundancy of incentives and related social costs such as rent-seeking.

Considering that tax is one of the many determinants in the location decision by multinationals and that country-specific factors influence the efficacy of tax incentives, the possibility of an excessive tax competition is doubtful. Nonetheless, the corporate tax base will face intensified erosion pressure in an increasingly globalized world. One key dimension in which tax competition might take place is the relative statutory corporate tax rates among countries. First, the statutory tax rate, combined with investment incentives, determines the effective tax rate on investment. Reducing both tax rates and tax preferences has been the dominating international trend since the mid-1980s, intended for efficiency gains.

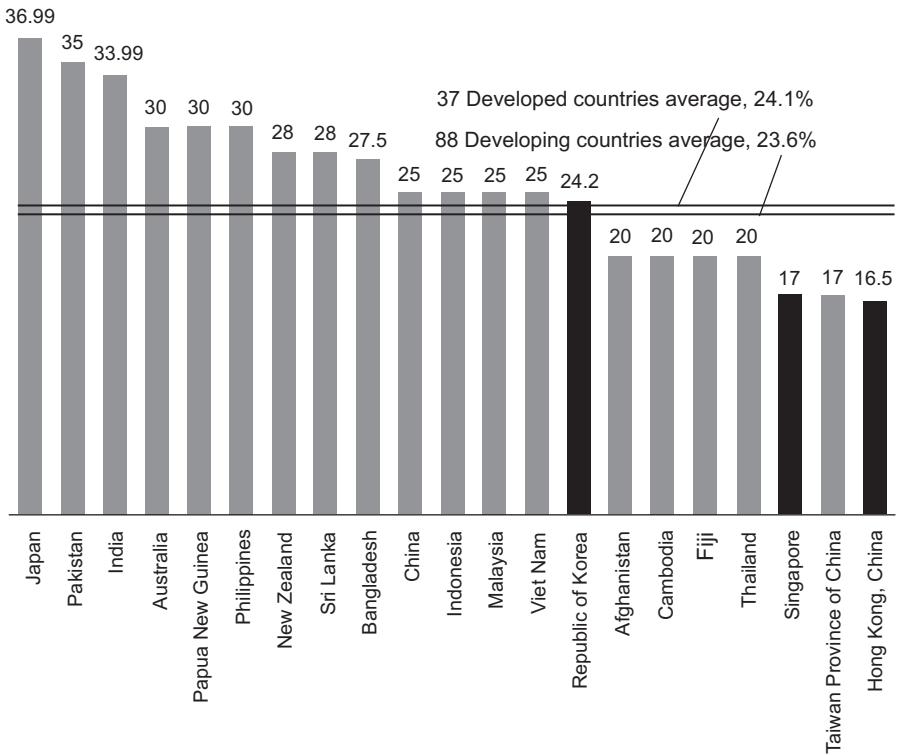
Another policy concern is related to multinationals' decision to locate their profits among jurisdictions where they have subsidiaries. Such profit shifting is largely determined by the differences in the statutory tax rates. As seen in figure 3.3, the average statutory corporate tax rate is very similar between developed and developing countries. Nonetheless, there are significant disparities across individual countries, from 36.99 per cent in Japan to 16.5 per cent in Hong Kong, China. With increased capital mobility across borders, countries may find it safe to conform with neighbouring countries with similar economic attributes.⁷⁷ If the shifting of profits by multinationals acts as a constraint on the level of the statutory rates, governments may have to adjust tax expenditures to reach desired effective tax rates.

Another issue to note in conjunction with tax competition is the desirability and feasibility of tax coordination among countries. If increased capital mobility leads to a harmful tax competition, tax coordination can result in welfare gains from a global point of view.⁷⁸ In practice, however, coordination in tax policy is much more difficult than in trade policy, since a tax system reflects a variety of country-specific attributes and political preferences. As noted in Section 3, governments can effectively collect taxes on location-specific rents and even export some part of them to foreigners. Noting that increased capital mobility implies a higher foreign ownership of the domestic capital stock, governments have political as well as economic reasons to sustain corporate taxes. Probably, information sharing

⁷⁷ Conformity of statutory rates can also take place as a result of 'yardstick' competition with governments mimicking each other's tax rates.

⁷⁸ In contrast to the case of individual countries, the global tax base is presumably inelastic, affected mostly by savings elasticities.

Figure 3.3
Statutory corporate tax rates in selected Asia-Pacific countries, 2013
(per cent)



Source: KPMG; OECD Tax database.

Note: The average rates for developed and developing countries follow the classification set out in IMF (2016b); Combined CIT rates (central government and subcentral government, plus sur-tax) are reported, when data are available.

is the most practical possibility, given the increased shifting of profits by multinationals. Even such exchange of information is likely to take place only if the host country has an economic incentive (Keen and Ligthart, 2004).⁷⁹

⁷⁹ On this subject, the ongoing OECD project on BEPS will provide practical guidance for policymakers. The BEPS implications for developing countries are not clear, however. On average, the BEPS project will likely increase tax liability for multinationals. While it is unclear that this may lead to improving the effectiveness of investment incentives among developing countries (Zolt, 2015), tax evasion schemes can become more sophisticated, so that developing countries may find it harder to catch them.

Overall, the discussion in this chapter suggests that the design and evaluation of tax incentives should respond to country-specific conditions and priorities. An incentive policy that might be desirable for one country could be ineffective for another. In this regard, some of the best practice recommendations from the existing literature should be considered with caution. Investment incentives can be effective even in countries with weak investment climates or wasted in countries with stronger climates. In fact, the prevalent practice of tax incentives among developing countries might not necessarily reflect a waste or abuse but rather be a rational response of their governments to various pressures stemming from enforcement difficulties or weak investment climates. As economic environments change, tax incentives need to be adjusted in the most cost-effective way taking into account country-specific characteristics such as the source of rent, the size of the informal sector and policy factors such as administrative capacity and the efficacy of the overall tax system.

6. Conclusions

One major thrust of this chapter is to note the risk of excessive generalization or 'one-size-fits-all' best-practice recommendation with regard to such a complicated fiscal issue as tax incentives. Although many fiscal experts have doubts on the tax incentive approach as a growth strategy, the evidence on incentives is far from conclusive. The underlying methodology including data availability still leaves much to be desired, and a more balanced approach is necessary in assessing the costs and benefits of a given scheme. In addition, it is essential to distinguish between the short-run and long-run aspects of incentives at the policymaking level since the assessment of their efficacy may differ across the time horizon. Note that policymakers tend to be more 'short-sighted' than the experts expect.

One notable aspect of many empirical evidences is that their sample subjects appear to be skewed toward 'bad case' experiences with a poor track record of growth. In this case, even a most sophisticated econometric method would not likely escape a bias due to omitted factors that might influence the estimated efficacy of incentives negatively. For example, noneconomic factors such as corruption and rent-seeking are not easy to measure and themselves have bad effects on growth variables. Of course, tax incentives per se might invite special interests, but a reverse causation or simultaneity problem is possible as well. In any case, the cost side of incentives is relatively more likely to be noted in bad economic environments.

Another reason that the costs weigh more than the benefits in the incentive literature may be their relative visibility. Foregone revenue can be

quantifiable in a tax-expenditure budget, efficiency costs are well-defined concepts that have been subject to estimation, and corruption can easily capture headlines. On the other hand, the intended effects of incentives are more difficult to identify empirically. For example, corporate investment is determined by the cost of capital and profit prospects. Tax factors constitute part of the capital cost, along with financial variables like interest rates or equity cost. In an empirical specification, the effects of tax incentives are captured as a factor determining the marginal effective tax rate. The extent to which this variable affects corporate investment varies across sectors, countries and estimation models.

Raising tax revenue to finance growth infrastructure and education is a major concern for policymakers in developing countries. In theory, a more market-oriented reform would spur growth, which leads to more revenue for financing further growth in a virtuous-cycle pattern. In practice, however, governments in developing countries seldom have the luxury of implementing a sweeping market-oriented reform based on recommendations from academic experts. Tax bases are typically narrow due to monitoring difficulty and compliance factors. While moving toward a broad-based tax system would enhance efficiency by reducing intersectoral distortions in the long-run, their immediate concern is more likely to find a scheme to protect the tax base from shifting into the informal sector or abroad. In such an environment, policymakers might find it in their interest to maintain a fine balance between utilizing interim base-protection measures and gradually adopting elements of a more neutral tax system.

The analysis in this chapter illustrates several such second-best approaches to tax base protection and effective usage of incentives. First, given a large informal sector and enforcement difficulty with personal income, the role of CIT is stressed in preserving the tax base in developing countries. Large capital-intensive domestic firms, which are responsible for a lion's share of tax revenue in many of these countries, need to be subsidized in some ways to ensure their compliance. Along with various non-tax benefits, even seemingly ineffective investment incentives might play a role in keeping them from engaging in evasion activity. Small firms, on the other hand, are to face lower effective tax rates, through various tax incentives, given the ease with which they can shift into the informal sector. Such a disparity in effective tax rates by type of firm can result in an efficiency gain, on second-best grounds, to the extent that it brings in more revenue than otherwise. In addition, CIT can play a backstop role when there are enforcement problems with personal income.

Next, tax incentives, if properly designed and implemented, can be part of a long-term base-broadening strategy. A major step to broaden the tax base in developing countries will be to bring more economic activity

under effective taxation by reducing informal activity and tax evasion. Accordingly, the revenue share of PIT and a broad-based consumption tax will increase, following the experience of developed countries and the first-best implications of the optimal taxation literature. A well-designed tax subsidy with a specific base-protection target could facilitate such reform efforts. Tax incentives for use of credit cards, small firms' book-keeping and being listed on stock exchanges could make more information available for tax enforcement, for example.

Of course, this kind of special incentives may complicate the tax system and create opportunities for distortive tax planning. A careful design including a periodic evaluation plan should precede taking action. Besides tax incentives, this chapter suggests various options for broadening the tax base such as reducing the rate gap between PIT and CIT, favorable treatment of business losses for small firms, and better measurement of taxable sales. All these efforts would increase the observability of economic activity, thereby reducing corruption as well.

Regarding the role of tax incentives in attracting FDI, this chapter discusses the practicability of current best practices and potential room for a better usage of tax incentives. As evidenced in the Singapore experience, good investment climates will likely make investment incentives more effective as advocated by many experts. The problem is that it takes time and revenue to build infrastructure and human resources. Moreover, a country with a good investment climate may not desperately need tax incentives as seen in Hong Kong, China. Will policymakers then have to give up on tax incentives as a policy instrument?

The Republic of Korea may appear to be an attractive model to emulate in terms of the incentive policy since its investment climate compares poorly to Singapore and Hong Kong, China. As argued in detail here, however, the Korean Government seems to have focused more on supporting tax-paying domestic manufacturing firms than attracting FDI. Since FDI can be an important source of capital and technology for most developing countries, their policymakers need to find a better way to exploit tax incentives. This chapter illustrates channels through which investment incentives can possibly be cost-effective even under weak investment climates. Once tax incentives for FDI are designed reflecting country-specific conditions such as rent-potential and other environmental factors, the fear of a 'race to the bottom' competition would be lessened.

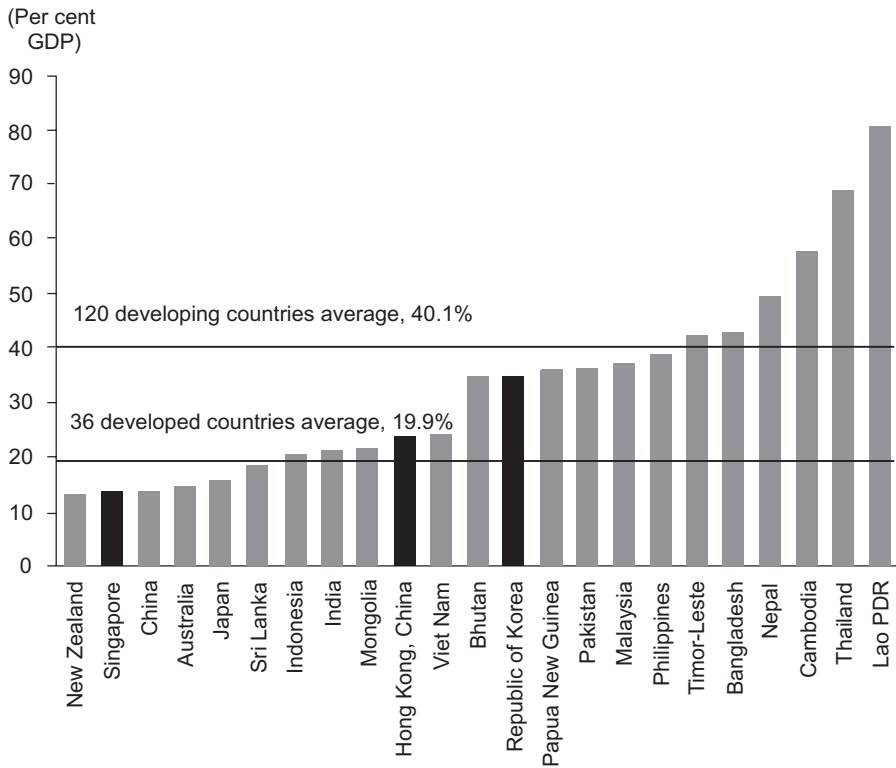
As demonstrated in this chapter, analysis of a complicated fiscal issue like tax incentives requires a more balanced perspective. When the 'good case' experiences of the three Asian miracle countries are investigated, richer policy implications can be derived for an effective use of tax incentives. The second-best approach to incentives taking into

account short-run policy constraints appears to lead to a more reasonable long-run strategy toward a broad-based tax system. Administrative and political factors, though not discussed here, also matter to ensure a satisfactory implementation of a scheme, as appropriately argued by Bird (2000). Considering all this, the best practice with respect to tax incentives needs to be offered in multiple recipes reflecting country-specific conditions and priorities.

Appendix

Appendix 3.1

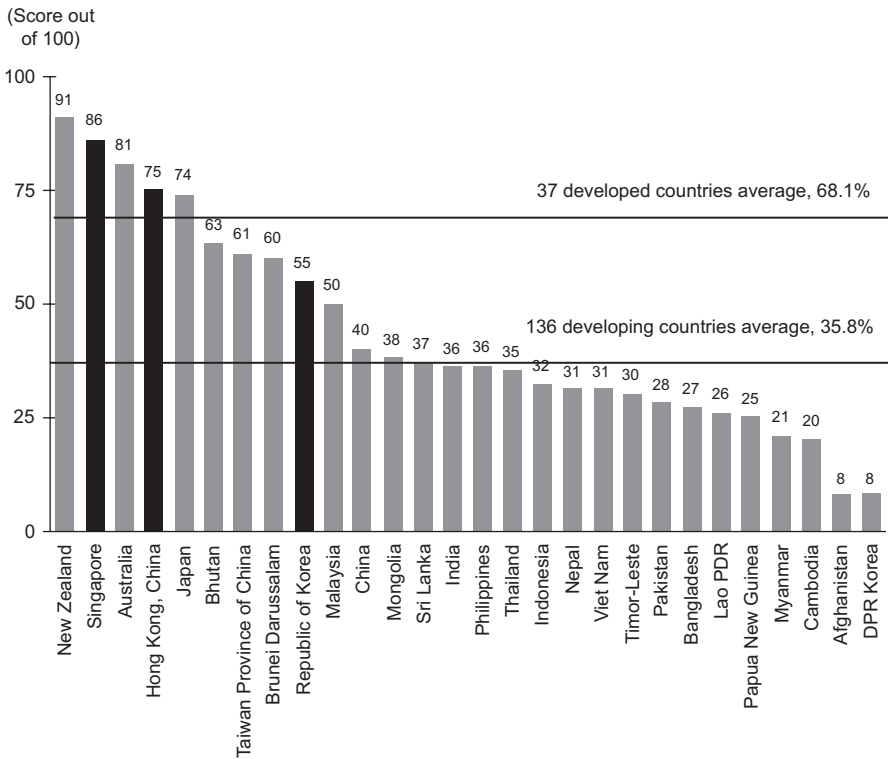
The informal sector in selected Asia-Pacific countries, 2013



Source: Hassan and Schneider (2016).

Note: The average rates for developed and developing countries follow the classification set out in IMF (2016b).

Appendix 3.2 Corruption Perceptions Index in selected Asia-Pacific countries, 2013



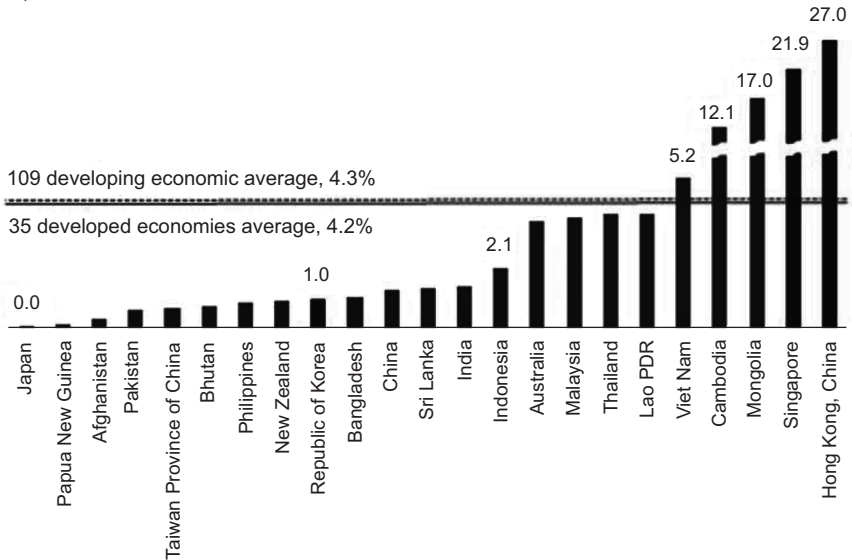
Source: Transparency International (2013), Corruption Perceptions Index.

- Notes:**
1. The CPI relates to the degree to which corruption is perceived to exist among public officials and politicians by business people and country analysts. Score ranges between 100 (highly clean) and 0 (highly corrupt).
 2. The average rates for developed and developing countries follow the classification set out in IMF (2016b).

Appendix 3.3

FDI inward flows in selected Asia-Pacific countries, 2013

(Per cent
GDP)



Source: United Nations Conference on Trade and Development (UNCTAD) database.

Note: Countries included in the average rates for developed and developing economies follow the classification set out in IMF (2016b).

Appendix 3.4
Tax structure in Hong Kong, China; Singapore and
the Republic of Korea, 2013

	Hong Kong, China	Singapore	Republic of Korea	Hong Kong, China	Singapore	Republic of Korea
	% GDP			% total tax revenue		
Total tax revenue	13.4	13.6	24.9	100.0	100.0	100.0
Taxes on income, profits, and capital gains	8.5	5.8	14.1	63.6	43.0	56.4
Payable by individuals	2.8	2.0	4.3	21.1	15.1	17.1
Payable by corporations and enterprises	5.7	3.8	3.1	42.5	28.0	12.4
Social contributions	0.0	0.0	6.7	0.0	0.0	26.9
Taxes on payroll and workforce	0.0	0.0	0.0	0.0	0.0	0.0
Taxes on property	0.8	1.1	1.6	6.3	8.2	6.4
Taxes on goods and services	3.9	4.2	7.5	29.0	30.8	30.2
VAT/GST ²	0.0	2.5	4.4	0.0	18.6	17.7
Excise	0.5	0.6	1.7	3.4	4.3	7.0
Taxes on financial and capital transactions	1.9	0.0	1.1	14.5	0.0	4.6
Taxes on international trade and transactions	0.0	0.0	0.8	0.3	0.0	3.0
Customs and other import duties	0.0	0.0	0.8	0.3	0.0	3.0
Taxes on exports	0.0	0.0	0.0	0.0	0.0	0.0
Other taxes	0.1	2.4	1.0	0.8	18.0	3.8

Source: IMF, Government Finance Statistics.

Notes: 1. Hong Kong, China: accrual basis, Singapore: cash basis, Republic of Korea: accrual basis.
2. Singapore: GST; Republic of Korea: VAT.

Appendix 3.5 Types of investment incentives in Hong Kong, China

Classification	Type of incentive	Example of incentive programme
(1) Activity		
Investment	<ul style="list-style-type: none"> Investment allowance 	Immediate writing off allowed for capital expenditure on plant and machinery specifically related to manufacturing and on computer hardware and software.
FDI	<ul style="list-style-type: none"> Stamp duty relief 	Exemption from stamp duty, provided certain conditions are fulfilled, for a conveyance of an interest in immovable property or a transfer of Hong Kong China stock, between companies with at least a 90 per cent common shareholding. This exemption must be obtained by application to the Stamp Office supported by relevant documentary evidence.
R&D	<ul style="list-style-type: none"> Tax deduction Cash rebate 	<p>Expenditure incurred on patent rights or rights to any know-how may be deducted at 100 per cent. With effect from the year of assessment 2011/12, expenditure incurred on copyrights, registered designs or registered trademarks may be deducted at 20 per cent for 5 consecutive years starting from the year of purchase.</p> <p>Research and Development Cash Rebate Scheme: The Government introduced the R&D Cash Rebate Scheme in April 2010 to reinforce the research culture of business enterprises and encourage R&D investments and projects. Under the scheme, enterprises conducting applied R&D projects either with the support of the ITF or in partnership with designated local research institutions will enjoy a cash rebate on their investments. The level of cash rebate increased threefold from 10 per cent to 30 per cent from 1 February 2012. Further measures, including procedures on pre-registration of partnership projects, have also been introduced from 1 April 2013 to improve the operation of the scheme.</p> <p>Enterprise Support Scheme (ESS): The scheme provides funding support for R&D activities of private sector companies, irrespective of size. The funding ceiling for each project was raised from \$6 million to \$10 million.</p>
(2) Sector		
Manufacturing /Service	<ul style="list-style-type: none"> Investment allowance 	Immediate writing off allowed for capital expenditure on plant and machinery specifically related to manufacturing, and on computer hardware and software.
Financial service	<ul style="list-style-type: none"> Tax exemption Reduced profit tax rate 	<p>Offshore Fund Exemption: Exemption from tax for offshore funds (non-resident individuals, partnerships, trustees of trust estates or corporations) for profits derived from transactions in securities, futures contracts, foreign exchange contracts, etc. in Hong Kong China carried out by corporations and authorized financial institutions licensed or registered under the Securities and Futures Ordinance (Cap. 571). The non-resident entity must not carry on any other business in Hong Kong China.</p> <p>Concessional tax rate for qualifying corporate treasury centre (CTC): Qualifying profits derived by a qualifying CTC are subject to profits tax at a concessional tax rate (50 per cent of the regular profits tax rate) under specified conditions.</p>

Appendix 3.5 (continued)

Classification	Type of incentive	Example of incentive programme
<ul style="list-style-type: none"> Stamp duty concession 	<ul style="list-style-type: none"> Since 2010, the Government has extended the stamp duty concession to cover exchange traded funds (ETFs) that track indices comprising not more than 40 per cent of Hong Kong China stocks. 	
(3) Firm size	<ul style="list-style-type: none"> Grants 	<p>Enterprise Support Programme: The programme provides funding to assist individual enterprises in Hong Kong China in expanding into and developing the Mainland market. The programme supports brand development, upgrading and restructuring of operations and promoting domestic sales in the Mainland.</p>
SMEs /Start-up		<p>Source: Legislative Council of Hong Kong, China; Deloitte; PricewaterhouseCoopers.</p>

Appendix 3.6 Types of investment incentives in Singapore

Classification	Type of incentive	Example of incentive programme
(1) Activity		
Investment	<ul style="list-style-type: none"> • Investment allowance • Reduced withholding tax rate 	<p>Integrated Investment Allowance (IIA): Allowance (on top of normal capital allowance) on a percentage of approved fixed capital expenditure to be incurred on productive equipment that is placed outside Singapore for an approved project.</p> <p>Approved Foreign Loan Incentive (AFL): Reduced withholding tax of 0 per cent, 5 per cent or 10 per cent on interest payments on loans taken to purchase productive equipment.</p>
FDI	<ul style="list-style-type: none"> • Tax holiday • Tax deduction • Stamp duty relief • Reduced corporate tax rate • Grants 	<p>Pioneer Incentive Scheme: Companies in the manufacturing or services sector that raise overall industry standards may be eligible for full corporate tax exemption on qualifying profits for up to 15 years.</p> <p>Double Tax Deduction (DTD) for internationalization scheme: Up to 200 per cent tax deduction on qualifying expenditure on a range of market expansion and investment development activities which include qualifying salary expenses incurred for employees posted overseas in an overseas entity.</p> <p>Mergers and Acquisitions (M&A) Scheme: The acquiring company is granted an M&A allowance of 25 per cent (capped at S\$10 million) of the qualifying acquisition value capped at S\$40 million per year of assessment, and stamp duty relief on the transfer of ordinary shares (capped at S\$80,000).</p> <p>Regional Headquarters (RHQ) Award: Qualifying companies can enjoy a concessionary tax rate of 15 per cent for 5 years (3+2) on incremental qualifying income from abroad, instead of the regular Singapore corporate tax rate of 17 per cent. If the applicant company satisfies all minimum requirements by the third year of the incentive period, it will enjoy the 15 per cent concessionary tax rate for an additional 2 years on qualifying income. This scheme applies to all companies that have their Asia-Pacific headquarters in Singapore.</p> <p>Market Readiness Assistance (MRA) grant: Up to 70 per cent funding support of eligible cost for pre-determined activities such as overseas market set-up, business matching and market promotion, capped at S\$20,000 per company per fiscal year.</p>
R&D	<ul style="list-style-type: none"> • Tax deduction 	<p>Productivity and Innovation Credit (PIC) and PIC+ schemes: Allowance of 400 per cent on up to S\$400,000 of qualifying expenditure incurred per year in each of six activities (R&D, training of employees, design projects, etc.)</p> <p>Liberalized R&D Tax Deduction: All Singapore-registered businesses, including sole proprietors, partnerships and companies. Tax deductions for R&D expenses.</p>

Appendix 3.6 (continued)

Classification	Type of incentive	Example of incentive programme
	<ul style="list-style-type: none"> Investment allowance Reduced withholding tax rate Grants 	<p>Writing-down allowances for intellectual property acquisition (S19B): Automatic 5/10/15-year write-down if legal and economic ownership of intellectual property are acquired. The Economic Development Board must approve the write-down if only economic ownership of intellectual property is acquired.</p> <p>Approved Royalties Incentive (ARI): Reduced or nil withholding tax rate on royalty payments to access advanced technology and know-how.</p> <p>Research Incentive Scheme for Companies (RISC): Co-funding to support the development of strategic technologies, capabilities and the establishment of centres of competence in Singapore.</p>
(2) Sector		
Manufacturing /Service	<ul style="list-style-type: none"> Tax holiday Investment allowance Reduced tax rate 	<p>Pioneer Incentive Scheme: Companies in the manufacturing or services sector that raise overall industry standards may be eligible for full corporate tax exemption on qualifying profits for up to 15 years.</p> <p>Allowance (on top of normal capital allowance) on a percentage of approved fixed capital expenditure.</p> <p>Development and Expansion Incentive (DEI): Reduced tax rate from 5 per cent to 15 per cent on incremental income from qualifying activities.</p> <p>Approved Foreign Loan Incentive (AFL): Reduced withholding tax of 0 per cent, 5 per cent or 10 per cent on interest payments on loans taken to purchase productive equipment.</p> <p>SPRING's Capability Development Grant (CDG): Up to S\$1 million grant support for the roll-out or scaling-up of automation projects at up to 50 per cent of the qualifying cost.</p>
Trading	<ul style="list-style-type: none"> Reduced tax rate Zero GST 	<p>Global Trader Programme (GTP): Reduced tax rates of 5 per cent or 10 per cent on qualifying transactions/trades in qualifying commodities, futures and derivatives (including structured commodity financing).</p> <p>Zero GST Warehouse Scheme: Businesses which are GST-registered with the Inland Revenue Authority of Singapore and registered with Singapore Customs, without any major noncompliance records with those entities.</p>
Financial service	<ul style="list-style-type: none"> Tax exemption 	<p>Offshore insurance incentives: Approved companies that insure and reinsure offshore risks are taxed at 10 per cent on qualifying income. The tax exemption for approved insurance companies for qualifying income from the writing of marine hull and liability risk insurance expired on 31 March 2016 and was replaced by a 10 per cent concessionary tax for awards granted or renewed from 1 April 2016. The tax exemption for offshore specialized risk insurance expired on 31 August 2016 and was replaced by a 5 per cent concessionary tax for awards granted between 1 September 2016 and 31 August 2019; and an 8 per cent tax will apply for awards</p>

Appendix 3.6 (continued)

Classification	Type of incentive	Example of incentive programme
		<p>granted thereafter. The incentive expanded to cover onshore specialized risk insurance from 1 September 2016. Tax exemption is available for qualifying income of approved offshore captive insurance companies until 31 March 2018. After that date the concessionary tax on awards granted or renewed will be 10 per cent. Approved brokers are taxed at 10 per cent on commission income from insuring or reinsuring offshore risks and on fee income from advisory services provided to clients based outside Singapore. The concessionary tax rate is further reduced to 5 per cent on qualifying income for approved insurance and reinsurance brokers providing specialty offshore insurance.</p> <p>Finance and Treasury Centre (FTC): Reduced tax rate of 8 per cent on fees, interest, dividends and gains from qualifying services/activities. Withholding tax exemption on interest payments on loans from banks and approved network companies for FTC activities.</p> <p>Infrastructure project finance incentives: Tax exemption for interest income from qualifying investments in qualifying infrastructure projects/assets. Companies participating in the Financial Sector Incentive Scheme (FSI) providing finance advisory services to qualifying projects/assets pay tax on qualifying income at 5 per cent or 12 per cent, and companies providing management services to qualifying business trusts and funds pay tax on qualifying income at 10 per cent. Stamp duty remission is also available on the transfer of such projects/assets to listed entities.</p>
Maritime, shipping and logistics	<ul style="list-style-type: none"> • Tax Exemption • Reduced tax rate • Grants 	<p>Maritime Sector Incentive (MSI) – Singapore Registry of Ships (MSI-SRS) and Approved International Shipping (MSI-AIS): Tax exemption on qualifying shipping income from operating Singapore and foreign-flagged ships, provision of specified ship management services, and income from foreign exchange and risk management activities which are carried out with or incidental to the operations of ships for 5 or 10 years.</p> <p>MSI – Shipping Related Support Services (MSI-SSS) Award: Concessionary tax of 10 per cent for 5 years on incremental income derived from the provision of qualifying approved shipping-related support services (such as shipbroking, forward freight agreement (FFA) trading, ship management, ship agency, freight forwarding and logistics services) and corporate services rendered to qualifying parties conducting shipping-related activities.</p> <p>Maritime Innovation and Technology (MINT) Fund: Co-funding to support R&D or test-bedding of new or better products, processes and applications relevant to the maritime industry in Singapore.</p> <p>Up to 50 per cent of total project costs consisting of manpower, equipment, material, professional services, intellectual property and other ancillary costs.</p>
(3) Firm size		
SMEs /Start-up	<ul style="list-style-type: none"> • Tax exemption 	<p>Tax exemption for new start-up companies: Under the scheme, qualifying new companies are given full exemption on the first S\$100,000 normal chargeable income and a further 50 per cent exemption on the next S\$200,000 of normal chargeable income for the first 3 consecutive years of assessment. The maximum exemption is therefore S\$200,000 (100 per cent x S\$100,000 + 50 per cent x S\$200,000).</p>

Appendix 3.6 (continued)

Classification	Type of incentive	Example of incentive programme
• Tax deduction		<p>Angel Investors Tax Deduction Scheme (AITD): Approved angel investors supporting a local start-up enjoy a tax deduction of 50 per cent of the investment amount (minimum S\$100,000) at the end of a 2-year investment holding period.</p>
• Grants		<p>Incubator Development Programme (IDP): Co-funds incubators and venture accelerators to mentor and develop local start-ups. The programme provides up to 70 per cent grant support for the following: costs of introducing programmes that help start-ups develop new products/services, obtain business financing, improve market access, etc.; hiring mentors to provide management guidance to start-ups; and costs incurred to market services/events, hire incubator managers, train staff, provide shared services/equipment for start-ups, etc.</p>

Source: Deloitte; PricewaterhouseCoopers; Steven Tan Russell Bedford PAC; Economic Development Board; Hawksford.

Appendix 3.7 Types of investment incentives in the Republic of Korea

Example of incentive programme	
Classification (1) Activity	Type of incentive
Investment	<ul style="list-style-type: none"> • Tax credit <p>Tax Credit for Investment in Facilities (excluding used and leased assets) for Productivity Enhancement: Where a resident or a domestic corporation invests in specific facilities, 3 per cent of the investment amount (7 per cent for SMEs) shall be deducted from income tax and corporate tax (The Restriction of Special Taxation Act, §11).</p> <p>Tax Credit for Investment in Facilities for Safety: Where a national invests in the specific facilities (excluding used and leased assets), an amount equivalent to 3 per cent of the investment shall be deducted from the income tax or corporate tax. However, where an SME has facilities installed to prevent technology from being illegally transferred, such as information protection facilities prescribed by the Ministry of Strategy and Finance ordinance, an amount equal to 7 per cent of the investment shall be deducted (The Restriction of Special Taxation Act, §25).</p> <p>Tax Credit for investment in Energy Saving Facilities: Where a resident or a domestic corporation invests in energy saving facilities, 10 per cent of the investment shall be deducted from income tax and corporate tax (The Restriction of Special Taxation Act, §25-2).</p> <p>Tax Credit for Investments in Environmentally Friendly Facilities and Safety Facilities: Where a resident or a domestic corporation invests in specific facilities, 3 per cent of the investment amount (5 per cent for High Potential Enterprises and 10 per cent for SMEs) shall be deducted from income tax and corporate tax (The Restriction of Special Taxation Act, §25-3).</p> <p>Tax Credit for investment in Facilities for Improved Quality Management of Medicines: Where a national invests in any facility for improved quality management of medicines prescribed by the Presidential Decree (excluding any investment in used goods and leased assets), the amount equivalent to 3 per cent of the investment amount (5 per cent for High Potential Enterprises and 7 per cent for SMEs) shall be deducted from the income tax or the corporate tax (The Restriction of Special Taxation Act, §25-4).</p> <p>The Restriction of Special Taxation Act, §28, §28-2.</p> <ul style="list-style-type: none"> • Tax deduction • Tax reduction and exemption <p>Tax Reduction and Exemption for Companies Closing Overseas Business Places and Returning to Korea: Where a national closes down a business place overseas which had been operated for 2 years or more to relocate or establish a new business place in the Republic of Korea (excluding metropolitan area), the national is entitled to a tax deduction. Where a national closes down the entire business place overseas, 100 per cent of income or corporate tax on income from a new business place after relocation will be deducted for 5 consecutive taxable years starting from the taxable year of the relocation; for the next 2 taxable years, 50 per cent will be deducted. Where the national closes down a part of the business place overseas, the same rates</p>

Appendix 3.7 (continued)

Classification	Type of incentive	Example of incentive programme
FDI	<ul style="list-style-type: none"> • Tax holiday • Tax exemption • Free Trade Zone 	<p>are applied, but the 100 per cent deduction is applied for 3 consecutive taxable years starting from the taxable year of the relocation; for the next 2 taxable years, the 50 per cent deduction will be applied (The Restriction of Special Taxation Act, §104-24).</p> <p>Foreign businesses and investors who make advanced technology investments in the Republic of Korea are eligible for exemption from individual and corporate income taxes for the first 5 years, and a 50 per cent reduction for each of the next 2 years. In addition, foreign businesses and investors are granted exemption from local taxes such as Acquisition Tax, Property Tax, Aggregate Land Tax and Registration Tax for a minimum of 5 years, and 50 per cent reduction in the next 2 years. Imported capital goods are eligible for full or partial exemption from customs duty, individual consumption tax and VAT.</p> <p>The Restriction of Special Taxation Act, §14-2.</p>
R&D	<ul style="list-style-type: none"> • Tax exemption • Non-taxation • Tax credit 	<p>Tax Exemption for Income from Technology Acquisition: SMEs purchasing patent rights or utility model rights are eligible for tax credit of up to 7 per cent of the total price (The Restriction of Special Taxation Act, §12).</p> <p>Non-taxation on Capital Gains of Venture Capitals: Venture capital companies investing in newly organized SMEs are eligible when they sell off stocks or equity of those SMEs. Corporate tax is exempt for capital gains from such transactions (The Restriction of Special Taxation Act, §13).</p> <p>Tax Credit for research and human resources development (The Restriction of Special Taxation Act, §10).</p> <p>Tax Credit for R&D of Growth Industry and Basic Technology: 20 per cent of R&D expenses (30 per cent for SMEs) of growth industry and basic technology incurred for that taxable year (The Restriction of Special Taxation Act, §10).</p> <p>Tax Credit for Investment in Facilities for Technology and Human Resources Development: Companies purchasing facilities prescribed in the Presidential Decree for R&D and job training are eligible for tax credit up to 3 per cent of the total price (5 per cent for High Potential Enterprises, 10 per cent for SMEs) (The Restriction of Special Taxation Act, §11).</p> <p>Income Tax Deduction for Individual Investors: Not more than 40 per cent of aggregate income shall be deducted for any 1 of 3 years after investment including the year during which the investment is made (The Restriction of Special Taxation Act, §16).</p>
(2) Sector	<ul style="list-style-type: none"> • Tax credit 	<p>Tax Credit for research and human resources development (The Restriction of Special Taxation Act, §10).</p> <p>Tax Credit for R&D of Growth Industry and Basic Technology (The Restriction of Special Taxation Act, §10).</p> <p>Tax Credit for Investment in Facilities for Technology and Human Resources Development (The Restriction of Special Taxation Act, §11).</p>

Appendix 3.7 (continued)

Classification	Type of incentive	Example of incentive programme
		Tax Credit for Investment in Facilities (excluding used and leased assets) for Productivity Enhancement (The Restriction of Special Taxation Act, §11).
		Tax Credit for Investment in Facilities for Safety (The Restriction of Special Taxation Act, §25).
	<ul style="list-style-type: none"> • Tax deduction 	Tax Credit for Investment in Energy Saving Facilities (The Restriction of Special Taxation Act, §25-2).
		The Restriction of Special Taxation Act, §28, §28-2.
		Special Tax Incentive for SMEs: SMEs in metropolitan area are eligible for 10 per cent or 20 per cent deduction in corporate tax or income tax. SME in non-metropolitan area are eligible for 5 per cent corporate tax deduction or 30 per cent income tax deduction (The Restriction of Special Taxation Act, §7).
Trading	<ul style="list-style-type: none"> • Zero-rate 	The following goods and services are zero-rated and the input tax incurred is refundable. Zero-rating is applicable only to traders who are residents or domestic corporations. However, for international transportation service by ship or aircraft, traders who are non-residents or foreign corporations are subject to zero-rating on a reciprocity basis. (1) Goods for exportation; (2) Services rendered outside the Republic of Korea; (3) International transportation service by ship and aircraft; (4) Other goods or services obtaining foreign currencies.
(3) Firm size		
SMEs /Start-up	<ul style="list-style-type: none"> • Tax credit 	Tax Credit for Investment: If SMEs acquire business assets (excluding used and leased assets) such as machinery and equipment or installation of information management system at the point of sales and information protection system, 3 per cent of the acquisition amount is deducted from income tax or corporate tax (The Restriction of Special Taxation Act, §5).
	<ul style="list-style-type: none"> • Tax deduction 	Special Tax Incentive for SMEs: SMEs in metropolitan area are eligible for 10 per cent or 20 per cent deduction in corporate tax or income tax. SME in non-metropolitan area are eligible for 5 per cent corporate tax deduction or 30 per cent income tax deduction (The Restriction of Special Taxation Act, §7).
		The Restriction of Special Taxation Act, §28, §28-2.
	<ul style="list-style-type: none"> • Tax reduction 	Reduction of income tax or corporate tax: In areas other than the Seoul metropolitan area or adjacent areas, new SMEs established in mining, manufacturing, construction, restaurant, publishing, video and audio documentary production and distribution (excluding video watching room operation business), broadcasting, telecommunications, computer programming, system integration and management, information service (excluding business providing news), R&D, advertising, other scientific technology service, service business related to creation and art (excluding self-supporting artists), engineering, distribution, running private institutes teaching vocational technique, tourist accommodation, international conference, amusement facilities,

Appendix 3.7 (continued)

Classification	Type of incentive	Example of incentive programme
	and tourist facilities, running welfare facilities for the aged, exhibition, manpower supply and employment, cleaning buildings and industrial facilities, security and escort service, market research and opinion survey, social welfare service, general urban gas, or when new venture enterprises certified by authorities concerned are established, the income tax or the corporate tax for such businesses is reduced by 50 per cent for the first 5 years including the year during which such income accrues for the first time (The Restriction of Special Taxation Act, §6).	

Source: Ministry of Strategy and Finance, Republic of Korea; PricewaterhouseCoopers.

References

- Baldwin, R.E., and P. Krugman (2004). Agglomeration, integration and tax harmonisation. *European Economic Review*, vol. 48, No. 1, pp. 1-23.
- Bank of Korea (various years). National accounts. Available from <http://ecos.bok.or.kr/>.
- Besley, T., and T. Persson (2014). Why do developing countries tax so little? *Journal of Economic Perspectives*, vol. 28, No. 4, pp. 99-120.
- Bird, R.M. (2000). Tax Incentives for Investment in Developing Countries. In *Fiscal Reform and Structural Change in Developing Countries*, vol. 1. G. Perry, J. Whalley, and G. McMahon, eds. McMillan Press.
- Bird, R.M., J. Martinez-Vazquez, and B. Torgler (2008). Tax effort in developing countries and high income countries: The impact of corruption, voice and accountability. *Economic Analysis and Policy*, vol. 38, No. 1, pp. 55-71.
- Deloitte. (2016a). Applying for Government Incentives in Singapore. New York: Deloitte Touche Tohmatsu.
- _____ (2016b). Taxation and Investment in Hong Kong, China. New York: Deloitte Touche Tohmatsu.
- _____ (2017). International Tax Singapore Highlights 2017. New York: Deloitte Touche Tohmatsu.
- Diamond, P.A., and J.A. Mirrlees (1971). Optimal taxation and public production I: Production efficiency. *The American Economic Review*, vol. 61, No. 1, pp. 8-27.
- Economic Development Board (2013). *Foreign Direct Investment in Singapore, 2014*. Singapore.
- _____ (2016). *Singapore Business Environment*. Singapore. Available from www.edb.gov.sg/content/edb/en/resources.html.
- _____ (2017). *Incentives for Business*. Singapore. Available from www.edb.gov.sg/content/edb/en/why-singapore/ready-to-invest/incentives-for-businesses.html.
- Gordon, R., and J. Jun (2013). *Korea's Tax Structure: Directions for Reform*. Sejong: Korea Institute of Public Finance.
- Gordon, R., and W. Li (2009). Tax structures in developing countries: many puzzles and a possible explanation. *Journal of Public Economics*, vol. 93, No. 7, pp. 855-866.
- Gordon, R., and J. Slemrod (2000). Are "real" responses to taxes simply income shifting between corporate and personal tax bases? In *Does Atlas Shrug?: The Economic Consequences of Taxing the Rich*. J. Slemrod, ed. New York: Russell Sage Foundation.
- Hassan, M., and F. Schneider (2016). Size and development of the shadow economies of 157 countries worldwide: updated and new measures from 1999 to 2013. Discussion Paper Series No. 10281. Bonn: Institute for the Study of Labor (IZA).
- Hawksford (2016). Industry Specific Tax Incentives in Singapore. Singapore. Available from www.guidemesingapore.com/taxation/corporate-tax/industry-specific-tax-incentives.
- Hines J.R., and R.G. Hubbard (1990). Coming home to America: dividend repatriations by U.S. multinationals. In *Taxation in the Global Economy*. A. Razin and J. Skemrod, eds. University of Chicago Press.
- Hong Kong, China, Census and Statistics Department (2013). Hong Kong Statistics. Available from www.censtatd.gov.hk/hkstat/quicklink/index.jsp.
- Hong Kong, China, Inland Revenue Department. (2014). *Annual Report 2014-15*.

- Hong Kong, China, Legislative Council of Hong Kong, China. (2014). Supplementary information on co-work spaces operating in Hong Kong, China and Hong Kong, China's investment incentives on attracting foreign direct investments. LC Paper No. CB(1)2023/13-14(01). Hong Kong, China: Commerce and Economic Development Bureau.
- Huizinga, H., and S.B. Nielsen (1997). Capital income and profit taxation with foreign ownership of firms. *Journal of International Economics*, vol. 42, No. 1, pp. 149-165.
- International Bureau of Fiscal Documentation (various years). IBFD Tax Research Platform. Amsterdam. Available from <https://online.ibfd.org/kbase/>.
- International Institute for Management Development. (2013). *IMD World Competitiveness Yearbook 2013*. Lausanne.
- International Monetary Fund (2016a). Corruption: costs and mitigating strategies. IMF Staff Discussion Note No. 16/05. Washington, D.C.
- _____ (2016b). *World Economic Outlook*. Washington, D.C.
- _____ (various years). Government Finance Statistics. Available from <http://data.imf.org>.
- James, S. (2010). Providing incentives For investment: advice for policymakers in developing countries. Investment Climate in Practice No. 7. Washington, D.C.: World Bank Group.
- _____ (2013). Effectiveness of tax and non-tax incentives and investments: evidence and policy implications. Washington, D.C.: Investment Climate Advisory Services of the World Bank Group.
- Jun, J. (2010). Korea's tax system: a growth-oriented choice. In *Taxation in Developing Countries: Six Case Studies and Policy Implications*. Roger H. Gordon, ed. New York: Columbia University Press.
- _____ (2014). The effects of quasi-taxes and entertainment costs on firm growth in Korea. *Korean Journal of Public Finance*, vol. 7, No. 4, pp. 149-181. Seoul: The Korean Association of Public Finance (in Korean).
- Kannianen, V., and J. Södersten (1995). The importance of reporting conventions for the theory of corporate taxation. *Journal of Public Economics*, vol. 57, No. 3, pp. 417-430.
- Keen, M., and J.E. Ligthart (2004). Information sharing and international taxation. Center Discussion Paper, vol. 2004-117. Tilburg, the Netherlands: Tilburg University.
- Kodila-Tedika, O., and M.I. Mutascu (2013). Shadow economy and tax revenue in Africa. Munich Personal RePEc Archive Paper No. 50812. Munich: University Library of Munich.
- KPMG (various years). Tax rates online. Available from <https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online.html>.
- Mintz, J. (1994). Is there a future for capital income taxation? *Canadian Tax Journal*, vol. 42, No. 6, pp. 1469-1503.
- Organisation for Economic Co-Operation and Development (OECD). (2008). Tax Incentives for Investment: A Global Perspective Experiences in MENA and Non-MENA countries. In *Making Reforms Succeed: Moving forward with the MENA Investment Policy Agenda*. Paris: OECD Publishing.
- _____ (2013). *Addressing Base Erosion and Profit Shifting*. Paris. Available from <http://dx.doi.org/10.1787/9789264192744-en>.
- _____ (2015). *Revenue Statistics 1965-2014*. Paris.
- _____ (2016). *Revenue Statistics in Asian Countries 1990-2014*. Paris.
- _____ (various years). Main science and technology indicators. Available from <http://stats.oecd.org/>.
- _____ (various years). Tax database. Available from <http://stats.oecd.org/>.

- Phua, S., and A. Halkyard (2012). The impact of tax incentives on economic development in Singapore and Hong Kong China. In *Taxation in ASEAN and China: Local Institutions, Regionalism, Global Systems and Economic Development*. N.C. Sharkey, ed. New York: Routledge.
- PricewaterhouseCoopers (2012). *Understanding Mergers and Acquisitions Tax in Asia – 2012*. Available from www.pwc.com/gx/en/tax/mergers-and-acquisitions/assets/pdf/ma-asian-tax-guide.pdf.
- (2016). *Worldwide Tax Summaries Online*. Available from www.pwc.com/gx/en/services/tax/worldwide-tax-summaries.html.
- Razin, A., and E. Sadka (1991). International tax competition and gains from tax harmonization. *Economics Letters*, vol. 37, No. 1, pp. 69-76.
- Republic of Korea, Ministry of Strategy and Finance (various years). *Korean Taxation*. Sejong.
- Republic of Korea, Ministry of Trade, Industry and Energy (various years). Foreign direct investment statistics. Sejong.
- Republic of Korea, National Tax Service (2014). *Statistical Yearbook of National Tax*. Seoul: National Tax Service.
- Schneider, F., and D.H. Enste (2000). Shadow economies: size, causes, and consequences. *Journal of Economic Literature*, vol. 38 (March), pp. 77-114.
- Singapore, Department of Statistics (2013). SingStat. Available from www.tablebuilder.singstat.gov.sg/.
- (2014). *Yearbook of Statistics Singapore*. Singapore.
- Singapore, Inland Revenue Authority of Singapore. (2013). Tax statistics. Available from www.iras.gov.sg/irashome/Publications/Statistics-and-Papers/Tax-Statistics.
- Steven Tan Russell Bedford PAC (2016). Tax and Financial Incentive Schemes Available in Singapore. Available from www.strb.com.sg/pdf/Tax_and_Financial_Incentive_Schemes_Available_in_Singapore.pdf
- Tanzi, V., and H. Davoodi (2002). Corruption, public investment, and growth. In *Governance, Corruption, and Economic Performance*. George T. Abed and Sanjeev Gupta, eds. Washington, D.C.: International Monetary Fund.
- Tanzi, V., and P. Shome (1992). The role of taxation in the development of East Asian economies. In *The Political Economy of Tax Reform, NBER-EASE*, vol. 1. T. Ito and A.O. Krueger, eds. Cambridge, MA: University of Chicago Press.
- Transparency International (2013). Corruption Perceptions Index. Available from <https://www.transparency.org/cpi2013/>.
- United Nations Conference on Trade and Development (various years). Foreign Direct Investment: Inward and outward flows and stock. Available from <http://unctadstat.unctad.org/>.
- Wei, S.J. (2000). Local corruption and global capital flows. *Brookings Papers on Economic Activity*, vol. 2, pp. 303-354.
- World Bank (1993). *The East-Asian Miracle: Economic Growth and Public Policy*. New York: Oxford University Press.
- (various years). *World Development Indicators*. Available from <http://databank.worldbank.org/data/>.
- Zee, H.H., J.G. Stotsky, and E. Ley (2002). Tax incentives for business investment: a primer for policy makers in developing countries. *World Development*, vol. 30, No. 9, pp. 1497-1516.
- Zolt, E. (2015). Tax incentives: protecting the tax base. Paper for Workshop on Tax Incentives and Base Protection. New York: United Nations.

4. Prospects for Progressive Tax Policies in Asia and the Pacific

Zheng Jian, Daniel Jeongdae Lee

1. Introduction

Some 60 years ago, Simon Kuznets suggested, through his famous inverse U-shaped curve, that economic development leads first to a rise in income inequality but when development reaches a more advanced stage inequality “naturally” falls back again. Since then, an extensive debate developed over whether this hypothesis is adequately supported by empirical evidence.⁸⁰ His prediction appears to be only half correct: inequality did fall back in developed countries,⁸¹ but only as a result of deliberate public policy interventions and institutional changes.⁸²

⁸⁰ The empirical debate over the Kuznets curve centres around whether it is supported by cross-sectional evidence based on a broader group of countries, especially the newly industrialized countries in Asia, and whether it is consistent with observed patterns in individual countries over time. There is extensive literature on this topic, and discussions are found in Fields (1995), Li et al. (1998), and Barro (2000). Most recently, Piketty (2014) shows that inequality in both the United States and in Europe may have actually followed a U-shaped curve in the twentieth century – contrary to what the Kuznets curve would suggest.

⁸¹ Before it rises again in the more recent years.

⁸² The decline in income and wealth inequality could also be partly attributed to the two world wars. Some of the progressive measures introduced in the post-war period were rolled back in the 1970s and 1980s (Piketty 2015). See Acemoglu and Robinson (2002) for a discussion on the dynamics between political institution and inequality. See Tsounta and Qsueke (2014) on how proactive policies can lead to a reduction in inequality in Latin America.

Democracy, public education and labour market reforms played an enormous role in establishing the balance of bargaining power between employees and employers and changing the market distribution of income. At the same time, taxes, transfers and welfare systems provided a basic safety net for poor people and redistributed income for greater economic and social equity. If it were not for these profound reforms and prudent public policies, inequality could have remained persistently high in the now developed world, leading to social unrest, aggressive populist reforms, and economic stagnation as widely observed in developing countries.

The Asia-Pacific region is at a crossroad today when a fine balance between maintaining strong economic growth and containing the swift rise in economic inequality for social cohesion and long-term prosperity becomes increasingly important and challenging. This region was known for “growing with equity” in the 1970s and 1980s, through effective land reforms and inclusive industrialization strategies that lifted millions out of extreme poverty. However, economic development in recent years had been accompanied by a sharp increase in income and wealth gaps between the poor and the rich.⁸³ In most cases, economic growth in the region has disproportionately benefited the top income groups, who are much better positioned to explore the economic opportunities generated by fast growth, while those from the bottom of the income distribution are further marginalized.

Without effective public policies to offset inequalities between the poor and the rich and prevent gaps from widening, this trend will likely be self-reinforcing. The income gap has already led to increasing wealth inequality in Asia and the Pacific. The region today not only has the world’s largest super-rich population but is also producing billionaires at the fastest rate worldwide. With growing wealth, the rich are likely to further strengthen their advantages in a market economy, while at the same time, the vast majority of the bottom income groups could be increasingly squeezed between an agricultural sector suffering from deteriorating sectoral terms of trade and the intensifying competition for low skill low pay jobs in manufacturing and services sectors.

⁸³ Asian Development Bank (2012), Part 2: Confronting rising inequality in Asia.

Progressive taxation⁸⁴ was a central piece of the development thinking in the decades immediately after World War II, which emphasized the role of comprehensive⁸⁵ and progressive personal income tax (PIT) for revenue mobilization in a fair way. However, with failed experiments of this model in developing countries at that time and growing fiscal pressure, revenue mobilization gradually became the primary, if not the only, priority of taxation and the equality issue was sidelined as a secondary consideration. Correspondingly, the introduction of new indirect taxes for revenue mobilization, the value-added-tax (VAT) in particular, became the theme of tax reforms while the advances made in strengthening progressive direct taxes remained highly limited.⁸⁶

Such a change in tax theory and practice is based on a number of good justifications. In general, the cost-benefit position of progressive taxes in the developing country context is believed to be weak. On the one hand, progressive taxes could be economically distortionary and are often associated with more complex tax design, thus incurring higher costs for compliance, collection and tax administration. On the other hand, the potential redistributive benefit could be limited as developing countries tend to have much lower tax levels compared to developed countries and, more importantly, may even lack the institutional framework or administrative capacity to effectively deploy these taxes.⁸⁷

It is argued that the impact of tax policy on inequality should not be evaluated in isolation, but rather be considered as part of an overall fiscal policy package. In this regard, the combination of revenue-focused tax policy and redistributive public spending could be much more efficient in delivering the desired results. In addition, taxing more through progressive direct taxes like PIT, property tax and wealth tax could be far less politically attractive than promising more public welfare. After all, these taxes are much more visible than indirect taxes such as the VAT, and introducing related reforms requires strong political will to overcome the potential unpopularity of these taxes.

⁸⁴ A tax system could be considered progressive if it improves the distribution of incomes towards greater equality. The precise definition and measure of progressivity could vary. See, for instance, Zee (2005).

⁸⁵ A comprehensive personal income tax treats all forms of income equally, without enforcing differentiated rates or bases on different income types (such as wage income or capital income).

⁸⁶ See Bird (2012) for a general discussion on the evolution of tax policy thinking in the past decades.

⁸⁷ For an extensive discussion on the limitation of progressive tax policies in developing country context, see Bird and Zolt (2005).

However, the weakened emphasis on progressive taxation is not without criticisms. First, the effectiveness of redistribution through public spending to compensate for regressive taxation depends on the accountability and quality of pro-poor public transfers and social programmes. For many developing countries, spending adequately and well on the poor could be as big a challenge as progressive taxation itself.

The Asia-Pacific region is known for its inadequate public social spending. Public expenditure on education averages only 2.9 per cent of gross domestic product (GDP) in the region, while this figure is 5.3 per cent in advanced economies and 5.5 per cent in Latin America. The region falls further behind when it comes to health care and social protection. On the former, the Asia-Pacific region spends only 2.4 per cent of GDP compared to 8.1 per cent in advanced economies and 3.9 per cent in Latin America. On the latter, it spends about 6.2 per cent of GDP, half of the 12 per cent in Latin America and less than a third of the 20 per cent in advanced economies.⁸⁸

Even when an adequate total amount is spent, it is difficult to guarantee that the benefits are distributed progressively and efficiently. For instance, large public subsidies on fuel and fertilizers in South Asia are found to be regressive (Rama et al., 2015). Social security schemes with narrow coverage may benefit government and formal sector employees more than vulnerable workers in the informal sector.⁸⁹ Publicly subsidized education, health care and housing could widen the urban-rural disparity when the richer urban population have better access to these services. If the leakage and corruption factors are also taken into account, there is legitimate concern that the worst scenario – an increase in revenue via regressive taxation that funds a rise in regressive or ineffective public spending - may happen.

The political-economy context for progressive tax policies has started to change in recent years. At the global level, the 2007-2008 financial and economic crisis triggered a new wave of debate over the long-term inequality trend and the fairness of taxes and public programmes. This has led to greater emphasis on the role of progressive income and wealth taxes in stabilizing the long-term inequality level, including across generations (Piketty, 2014).

⁸⁸ Estrada et al. (2014). The average is taken on the developing countries of Asia for which data is available.

⁸⁹ For example, Claus et al. (2012) suggests that public spending on social protection and housing in Asia could be regressive.

In Asia and the Pacific, rising inequality has attracted greater public attention, which is translating into stronger political pressure for Governments to take concrete actions to narrow the income and wealth gaps. The fiscal pressure following the 2007-2008 crisis also created incentives to better leverage direct taxes for revenue mobilization in the region and to ensure that those who benefit most from the economy and are more capable of paying taxes pay their fair share.

Given the absence of sizable and accountable redistributive public welfare systems and the greater popularity of “developmental state” over “welfare state” in most Asia-Pacific developing countries, it is likely that taxation would have to shoulder a larger proportion of the political pressure for equality. For countries with more mature economic foundations and stronger capacity to manage more complex tax designs, greater leverage of direct taxes could be among the options.

It should be pointed out upfront that this is not to argue for universal reforms towards progressive taxes across developing countries in the region regardless of their development status and local economic and institutional context. Instead, as suggested by the mainstream consensus, these reforms need to be designed and evaluated as part of an integral package of tax and public expenditure policies to achieve the optimal social and economic results in a particular context. In many cases, neutral or even slightly regressive taxes that do deliver in revenue mobilization complemented by accountable and effective progressive public spending could still be more productive in reducing inequality than a narrow emphasis on tax progressivity alone.⁹⁰

However, the exact opposite, that tax policies should be eliminated from the formula in addressing inequality, may not be correct either. Recognizing that progressive taxes do have an important potential role in reducing inequality is as important as recognizing the pragmatic difficulties and challenges of implementing these policies in developing countries.

This chapter argues for differentiated strategies for developing countries at different stages of development, based on the balance between needs and means. Higher-middle income countries, which are experiencing growing public concern over inequality and are at the same time better equipped with institutional and administrative capacities, can take stronger efforts to leverage progressive tax tools and increase the share of direct taxes over time. For countries that are in the middle of economic take-off but are already witnessing rising inequality, focusing on a smaller number of well-conceived reforms and prioritizing implementation quality could be more viable. While for low-income countries that are still at an early stage

⁹⁰ An example is social security contributions, which are often regressive by design but finance important progressive public benefits.

of development with widespread poverty, strengthening revenue mobilization, untaxing the poor and improving tax administration so that the rich pay their fair share could be far more effective and much less costly than introducing superficial progressive tax structures that further complicate or distort the tax system.

The objective of this chapter is to provide an overview of the inequality challenges in the Asia-Pacific region and discuss the potentials of progressive taxes in addressing the widening income and wealth gaps. The following section reviews the dynamics of income and wealth inequality in the region. Sections 3 and 4 highlight the role of tax policy in promoting equity and assess where the region stands in this regard. Sections 5 and 6 examine the role of PIT and property/wealth taxes for redistributive purposes, and the specific challenges countries may encounter in the design and implementation of such taxes. Section 7 concludes.

2. Inequality in Asia and the Pacific

Recent economic development in the Asia-Pacific region has been accompanied by a sharp rise in inequality, especially in the region's most populous countries such as China, India and Indonesia. The population-weighted income Gini coefficient for Asia and the Pacific increased by 11 points between 1990 and 2014, from 37 to 48.⁹¹ Even a more conservative Gini coefficient estimation based on household consumption data, which normally underestimates the extent of income inequality, recorded an increase of 4 points, from 33.5 to 37.5, between early 1990s and 2014 (ESCAP, 2015).

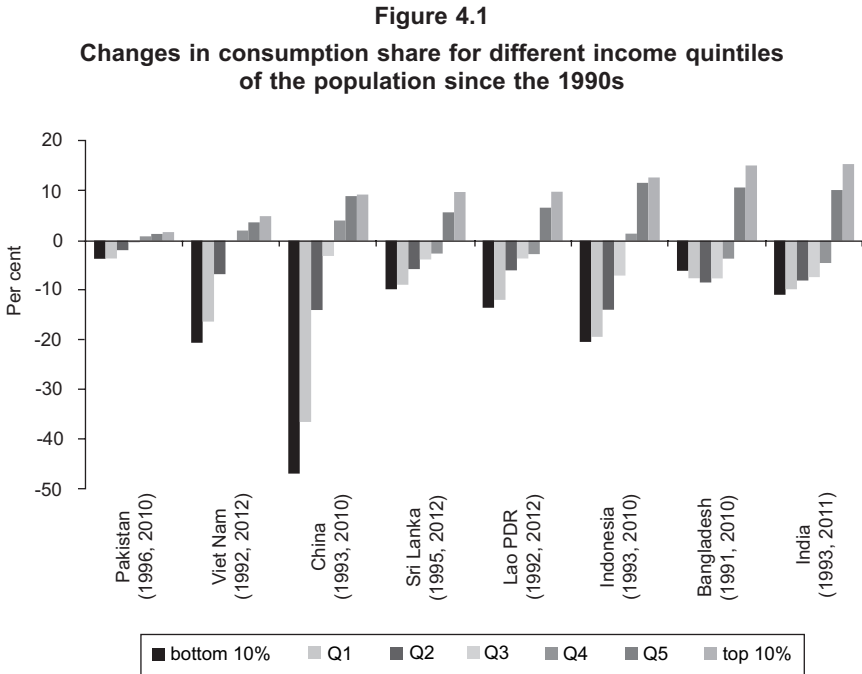
This trend was largely driven by major developing economies in the region. China transformed from one of the most equitable countries at the beginning of the 1990s, to a country of alarming inequality in the 2000s. According to the latest official estimate, the income Gini coefficient stood at 46.5 in 2016, below the peak of 49.1 in 2008, but still high.⁹² Household consumption data also suggests that the bottom 10 per cent of households were deeply marginalized, with their share in total consumption almost halved from 3.2 per cent in 1993 to merely 1.7 per cent in 2010 (figure 4.1). While India does not provide official income distribution data, estimates by the Luxembourg Income Studies suggest income inequality levels in India are on par with China.^{93, 94} Indonesia also experienced a rapidly widening

⁹¹ Based on household income estimates. See Jain-Chandra et al. (2016).

⁹² Official figures from the China National Bureau of Statistics.

⁹³ According to Luxembourg Income Studies, the income Gini coefficient stood at 50.3 in 2011, compared to 49.1 in 2004.

⁹⁴ Atkinson et al. (2011) suggests that in China and India the inequality increase in the recent decades was partly driven by the substantial increase in the top 1 per cent's share in the overall income pool.



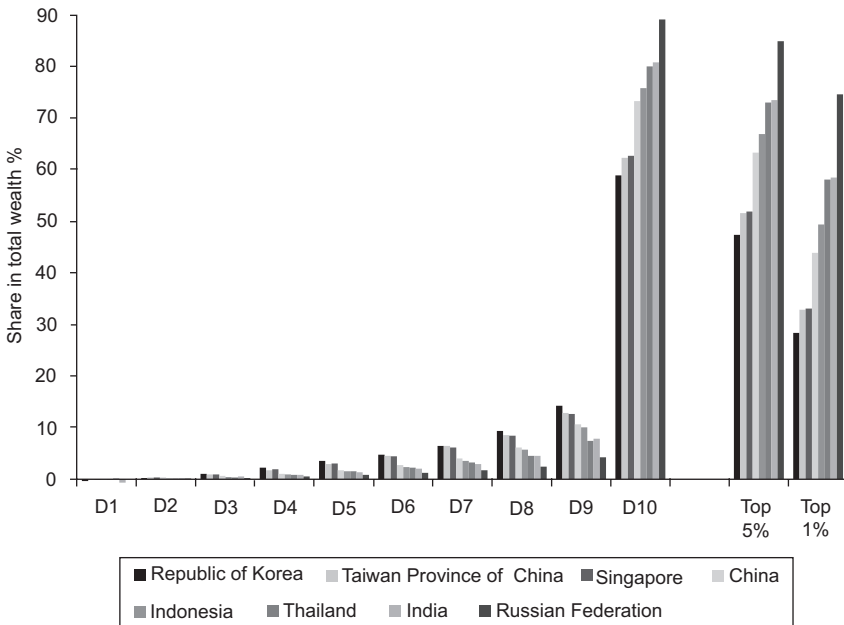
Source: ESCAP, based on World Development Indicators.

gap between the rich and the poor, with growth in consumption of the top 10 per cent outpacing that of the bottom 40 per cent by more than three times between 2003 and 2010 (World Bank, 2016). A similar trend was also observed in smaller economies such as Bangladesh, the Lao People's Democratic Republic, Sri Lanka and Viet Nam.

More worrying than rising income inequality is the evolution of wealth inequality, given its inter-generational implications. Wealth inequality tends to peak after income inequality peaks, and is already at very high levels in a number of countries. In the Russian Federation, for instance, the top 5 per cent of the population is estimated to control 82 per cent of the nation's total private wealth, and the top 1 per cent control 70 per cent. Although less extreme, the situation is not too different in India, Indonesia and Thailand (figure 4.2). The concentration of wealth is also reflected in the region's growing numbers of the superrich. Between 2009 and 2015, Asia registered the world's highest growth rate in both the number of high net worth individuals (HNWI) and their level of wealth.⁹⁵

⁹⁵ HNWI refers to those with more than \$1 million in net wealth. Between 2009 and 2015, Asia's HNWI population increased from 3 million to 5 million while their total wealth almost doubled, from \$9.6 trillion in 2009 to \$17.4 trillion in 2015. See <https://www.worldwealthreport.com/>.

Figure 4.2
Wealth distribution by deciles in selected economies



Source: Credit Suisse, Global Wealth Databook 2016.

The actual scale of inequality could be even greater than what publicly available data reveal, given the underreporting of incomes and wealth. For instance, it was estimated that some 40 per cent of household income in China was unreported in 2008, and the lion's share (63 per cent) of this hidden income went to the top 10 per cent of the population.⁹⁶ This is consistent with the patterns observed in other countries. In the Russian Federation, for instance, some 60 per cent of the wealth of the richest households is estimated to be hidden offshore. Globally the total offshore wealth, mostly held by the top 0.01 per cent, is estimated to be equivalent to around 10 per cent of the world's GDP (Alstadsaeter et al., 2017b). If offshore wealth is taken into account in the estimation of wealth distribution, the wealth inequality in many countries would be far worse than it seems.

In reaction to widening income and wealth gaps, many developing countries in Asia and the Pacific have adopted explicit policy priorities of promoting inclusive development and containing excessive inequality.

⁹⁶ Wang and Woo (2010) estimated that income of the top 10 per cent could be 65 times that of the bottom 10 per cent, compared with 23 times as reported in official data.

Achieving this objective, however, could prove to be a challenging task. This is because technological progress, globalization and market-oriented reforms, which tend to favour skilled labour over unskilled labour, capital over labour, and urban and coastal areas over rural and inland areas, all contribute to widening the gaps between the poor and the rich, and are essential features of prevailing economic frameworks in most developing economies.⁹⁷

Some adjustments through government intervention are therefore inevitable to strike a balance between economic growth, equity and social stability. Specifically, Governments must take proactive policy measures to manage rising inequalities that accompany rapid economic growth and structural upgrading, and reverse the trends in the medium term.

3. The role of taxes in reducing inequality

Taxes can contribute to reducing inequality through two main channels: a) revenue mobilization to fund progressive public spending and b) direct redistribution of income and wealth.⁹⁸ In member countries of the Organisation for Economic Co-operation and Development (OECD), taxes and transfers play an important role in keeping inequality at relatively moderate levels (figure 4.3). In 2014, they together brought down the OECD average income Gini by almost a third, from a rather high level of 47.0 (market Gini) to 31.5 (net Gini).⁹⁹

While progressive public spending accounts for a bulk of the inequality reduction in this process, progressive taxation itself is not insignificant. Data in the EU15 countries in the early 2000s suggest that taxes alone reduced income Gini by 2.5 points on average, close to a third of the Gini reduction (8.8 points) attributed to public benefits. Taxes in Luxembourg, Austria, Spain, Germany and Portugal brought down income Gini by 4 to 5 points and contributed 30-40 per cent of the overall redistributive effect of taxes and public benefits put together (table 4.1).

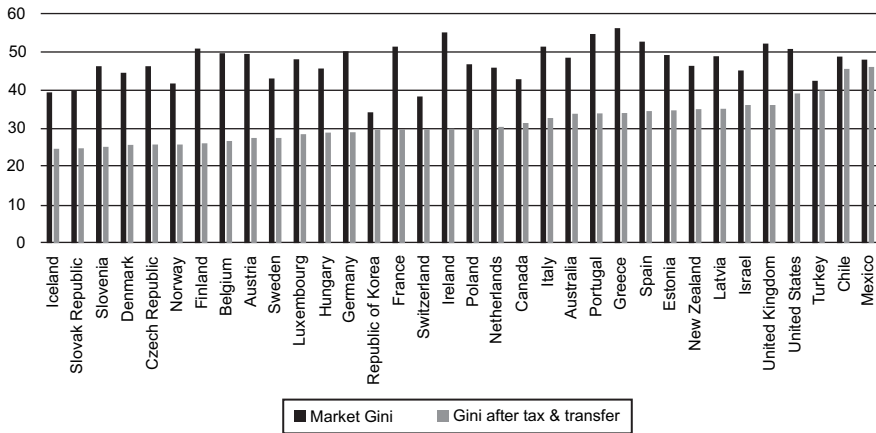
Redistribution through progressive taxes and progressive public benefits seem to compensate for each other in these countries. At one end of the spectrum are countries such as Austria, Spain, Germany and Portugal,

⁹⁷ For example, Piketty (2014) argues that the “fundamental force for divergence” of a long-term capital return higher than long-term economic growth had been the driving force behind the U-shaped curve of inequality observed in the United States and the Europe in the twentieth century.

⁹⁸ See International Monetary Fund (2014) for a more comprehensive discussion of the role of fiscal policies in addressing income inequality.

⁹⁹ Unweighted average of gross versus net Gini coefficients across countries, based on OECD Social Protection and Well-being database.

Figure 4.3
Income Gini before and after taxes and transfers in OECD countries¹⁰⁰
(2014 or the latest year)



Source: OECD Inequality Update 2017.

Table 4.1 Impact of taxes and public benefits on Gini, selected developed countries (2001)

Country	Market Gini	Gini after taxes	Gini reduction after taxes	Gini after benefits*	Gini reduction after benefits	Tax/GDP ratio %	PIT as % of GDP
Luxembourg	37.1	32.3	4.8	26.8	10.3	40.7	7.2
Austria	33.8	29.4	4.4	27.0	6.8	45.4	10.4
Spain	42.1	37.9	4.2	35.8	6.3	35.2	6.9
Germany	38.7	34.7	4.0	30.6	8.1	36.9	10.0
Portugal	44.4	40.6	3.9	38.4	6.1	33.5	6.0
Belgium	41.9	38.6	3.3	32.3	9.6	45.8	14.5
Greece	42.6	39.4	3.2	36.2	6.4	36.9	5.4
Ireland	47.8	45.3	2.5	34.6	13.2	29.9	8.9
Netherlands	34.8	32.3	2.5	27.1	7.8	39.5	6.5
Italy	42.8	40.6	2.1	33.6	9.2	42.0	10.9
France	37.8	35.7	2.1	30.2	7.6	45.0	8.0
United Kingdom	47.1	46.1	0.9	34.3	12.7	37.3	11.3
Finland	44.4	44.5	-0.1	32.3	12.0	46.1	14.1
Sweden	40.7	42.8	-2.1	29.4	11.3	51.4	16.4
Denmark	43.7	45.8	-2.1	30.6	13.1	49.8	26.3

¹⁰⁰ Not every OECD country reports income Gini yearly. Japan for example is missing here.

Table 4.1 (continued)

Country	Market Gini	Gini after taxes	Gini reduction after taxes	Gini after benefits*	Gini reduction after benefits	Tax/GDP ratio %	PIT as % of GDP
EU 15 average	41.7	39.2	2.5	32.8	8.8	41.0	10.9
USA (2011)**	59.0	56.0	3.0	47.0	12.0	23.9	8.9

Source: Authors based on Barreix et al 2007 (tables 32 and 34) and The Distribution of Household Income and Federal Taxes 2011 (figure 14). Congressional Budget Office of the United States, available from <https://www.cbo.gov/publication/49440>.

Notes: * Benefits include public social expenditure (PSE) on education, health and social protection, and net pensions (pensions - contributions).

** There is inconsistency between the inequality reduction estimation by Congressional Budget Office (CBO) of the United States and that made by the OECD. The OECD figure suggests that taxes and transfers together brought the market Gini down from 57.9 to a post-tax-and-transfer level of 38.9 in 2011, a reduction of 19 percentage points. While the CBO reports an inequality reduction of only 15 Gini percentage (from 59 to 44) due to taxes and transfers combined in the same year.

where progressive taxes play a much more prominent role in income redistribution while public benefits are only moderately progressive by developed country standards. At the other end are countries such as Denmark, Sweden and Finland, which primarily rely on highly progressive public welfare schemes funded by neutral or regressive tax systems¹⁰¹ to reduce inequality. Yet there was no obvious gap in the combined inequality reduction by both taxes and public benefits between these two groups, despite the latter have much higher tax revenue levels.^{102, 103}

¹⁰¹ Components of the overall tax mix in these countries, such as the income tax, could still be highly progressive.

¹⁰² In more recent years, taxes and transfers seemed to have become more progressive. The average income Gini reduction, or the Reynolds-Smolensky index, due to taxes and transfers in the EU15 countries increased from around 11 points in 2001 to more than 20 points in 2014 (although average market income Gini also increased from around 41 to 50 during this period and some of the difference could be caused by methodology). The pattern that there is no clear link between overall tax levels and combined redistributive effect remained consistent over time.

¹⁰³ Alesina and Angeletos (2005) and Bird and Zolt (2013) suggest that two models of redistributive taxation exist in developed countries: low-tax low-redistribution as in the United States or high-tax-high-redistribution as in Sweden. By contrast, the table compiled by Barreix et al. (2007) indicates that redistributive fiscal policy in EU15 countries forms a continuous spectrum, and the level of combined redistributive effect of taxes and public benefits is somewhat independent of the overall tax level. In fact, income Gini reductions of fiscal systems in relatively low-tax European countries, such as Ireland or Portugal, are in par or even higher than those in typical high-tax countries, such as Sweden and Denmark. Outside Europe, among developed countries, Australia, Canada, New Zealand, the Republic of Korea and the United States do seem to be low-tax-low-redistribution.

Such a pattern implies that taxes and public benefits tend to work together to arrive at an inequality level desired by the society as a whole. If taxation falls short in delivering this, the spending side needs to be more progressive to compensate, and vice versa. In most cases, progressive taxes and progressive public benefits both share some of the redistributive responsibilities.¹⁰⁴

In developing countries, the situation is often that neither taxation nor public spending is effective in reducing inequality.¹⁰⁵ The small size of progressive direct taxes, widespread exemptions and tax evasion – which tend to benefit the rich more than the poor- and the increasing downward pressure on taxes targeting capital gains all work against progressive taxation. While inadequate public social spending, skewed access to public services and welfare, leakages and corruption jeopardize the effectiveness of redistributive public spending.

However, as developing countries advance in economic prosperity, institutional readiness, governance and administrative capacity, there would be greater space for them to better leverage progressive taxes and public spending to reduce inequality. New developments in Latin America provide some useful lessons for Asia-Pacific developing countries. Since the early 2000s, Latin America witnessed a historic transition with a notable decrease in inequality and steady increase in tax revenue levels. Studies suggest that taxes and progressive public spending, among other factors, played a significant role in inequality reduction during this period.¹⁰⁶ This is a sharp contrast with the earlier period, when both taxation and public spending in general “seemed to have either a regressive or non-significant relationship with inequality” (Clifton et al., 2017).

Direct taxes also started to make a greater contribution to public revenue and inequality reduction in Latin America in this period. Between 2002 and 2011, the average share of taxes on income, profits, and capital gains in the overall tax mix increased from 26 per cent to 33 per cent in the region (Martorano, 2016), which is likely a main reason why the tax system became more progressive in the 2000s.¹⁰⁷

¹⁰⁴ In the EU15, the only exceptions seem to be Denmark, Sweden and Finland.

¹⁰⁵ See Chu et al. (2000) for a general discussion on this topic.

¹⁰⁶ Cornia (2012), Cornia et al. (2014), González and Martner (2012), Tsounta and Qsueke (2014), Gómez Sabañi and Morán (2014), Martorano (2016), Gómez Sabañi et al. (2016), and Clifton et al. (2017).

¹⁰⁷ González and Martner (2012) identified progressive tax system as a factor behind the inequality reduction in Latin America. Cornia et al. (2014) confirmed that taxation had progressive effects on income distribution. Clifton et al. (2017) found that fiscal policy significantly reduced regional inequality between 1999 and 2012 in Latin America, and public revenue, including increase in PIT revenue, had a greater progressive impact than public spending.

This change is partly due to deliberate policy reforms to strengthen income taxes. Uruguay, for instance, introduced a progressive PIT and a flat corporate income tax (CIT) in 2007, while Mexico introduced the Impuesto Empresarial de Tasa Única (IETU) – a minimum tax to strengthen the collection of taxes on corporate incomes (Cornia et al. (2014)). However, the focus of related reforms in this period had been the accountability and effectiveness of direct taxes rather than progressivity. In Peru, PIT reforms in late 2000s shifted away from a progressive tax schedule on all incomes to a dual system with flat rate on capital income, yet income tax revenue as percentage of GDP almost doubled in the country between 2000 and 2010.¹⁰⁸ In Brazil, the increase in income tax revenue is likely to have been driven by “a combination of increases in income, formalization of employment, and strengthened tax administration” (Bird and Zolt, 2013).

Such a positive transition in Latin America happened at a time when economic growth led to the emergence of a stronger middle class in the region, which showed a greater demand for quality public goods and services, balanced the political clout of the conservative rich, and at the same time provided a broader base for direct taxes. The comprehensive improvements in tax administration across Latin American countries, a side effect of the earlier VAT reforms, also contributed to the enhanced capacity of these countries to effectively manage direct taxes and to their confidence in related reforms.¹⁰⁹ Even so, Latin America still trails far behind OECD countries in the level of overall fiscal redistribution through taxes and public spending, indicating space for future progress.

Such space may even exist in developed countries. For example, recent evidence from Scandinavia suggests that wealth is highly correlated with tax evasion. It is estimated that in Norway and Sweden the top 0.01 per cent income group evades 25-30 per cent of the income and wealth taxes, while the average personal tax evasion by all income groups put together is only 3 per cent (Alstadsaeter et al., 2017a, figure 8). This is a clear indicator that the superrich are much more proactive and sophisticated when it comes to tax evasion, even in countries that are known for good tax administration and effective redistributive fiscal policies. It is not difficult to imagine that the same problem is common among developing countries which generally have weaker accountability and administrative capacity in their tax systems, as suggested by the recent tax amnesties campaigns in Indonesia and Argentina.

¹⁰⁸ From 3.5 per cent of GDP in 2000 to 6.2 per cent of GDP in 2010 according to IMF GFS database.

¹⁰⁹ See Mahon et al. (2015) for extensive discussions on progressive tax reform and its political economy background in selected Latin American countries.

For Asia and the Pacific, there is clearly a potential for direct taxes and progressive tax policies to do more. This region is catching up quickly with Latin America in per capita income and tax administration capacity. The levels of inequality in some emerging-economy countries of the region are also approaching that of Latin American countries. However, a transition towards more proactive fiscal policies to adjust income distribution and an enhanced role of progressive direct taxes in particular, as observed in Latin America, has yet to happen. For the more advanced developing countries of the region, the progress achieved in Latin American countries since the 2000s is not beyond reach.

4. Where does Asia stand in tax collection and composition?

The Asia-Pacific region has one of the world's lowest tax revenue levels as reflected by tax-to-GDP ratios. In 2015 total tax revenue averaged 16.4 per cent of GDP in the region, compared to developing country average of 20.2 per cent and developed country average of 25.1 per cent.¹¹⁰ This regional average conceals the vast differences between countries. For instance, the average revenue level reaches only 14.2 per cent if the Central Asia subregion is excluded and only developing countries are considered. Afghanistan has the lowest tax-to-GDP ratio of only 7.3 per cent, while for Bangladesh, Myanmar, Pakistan, Islamic Republic of Iran, Sri Lanka and Timor-Leste this figure is below or barely around 10 per cent.

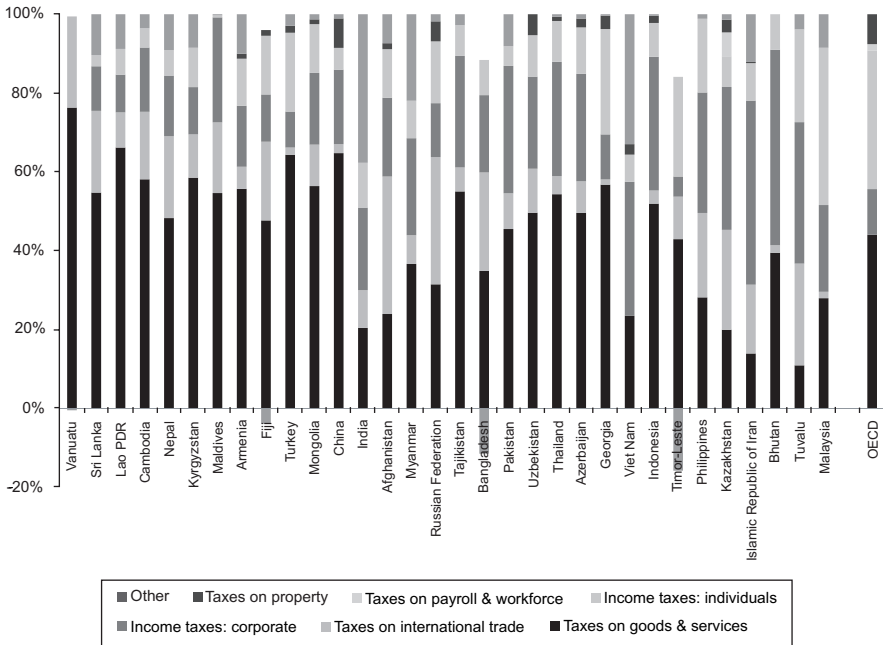
In terms of tax composition, there is a general bias in favor of indirect taxes over direct taxes (figure 4.4). Direct taxes account for 36.1 per cent of the total tax revenue in the region, while in OECD countries 55.8 per cent is mobilized from direct taxes.¹¹¹ Such difference is not surprising because indirect taxes typically pose a smaller tax administration challenge for developing countries than do direct taxes.¹¹² Nevertheless, the outcome is less desirable since indirect taxes tend to be much more regressive. A large presence of indirect taxes and a relatively small share of direct taxes could further aggravate the inequality problem, especially when pro-poor public spending in the region is already far from sufficient and optimal. Although many countries of the region have made substantial progress, it is not uniform. Countries such as Indonesia and Turkey experienced a significant

¹¹⁰ 2015 or latest year available. Unweighted average of 36 economies in the region for which recent data is available.

¹¹¹ Direct taxes include corporate and individual income taxes, taxes on payroll and workforce, and taxes on property. While taxes on property are not all direct taxes, these taxes are generally very small in Asia-Pacific developing countries.

¹¹² Within indirect taxes, implementing value-added taxes requires stronger administrative capacity than turnover taxes.

Figure 4.4
Structure of tax mix in Asian and Pacific countries and OECD
(2014 or latest year)



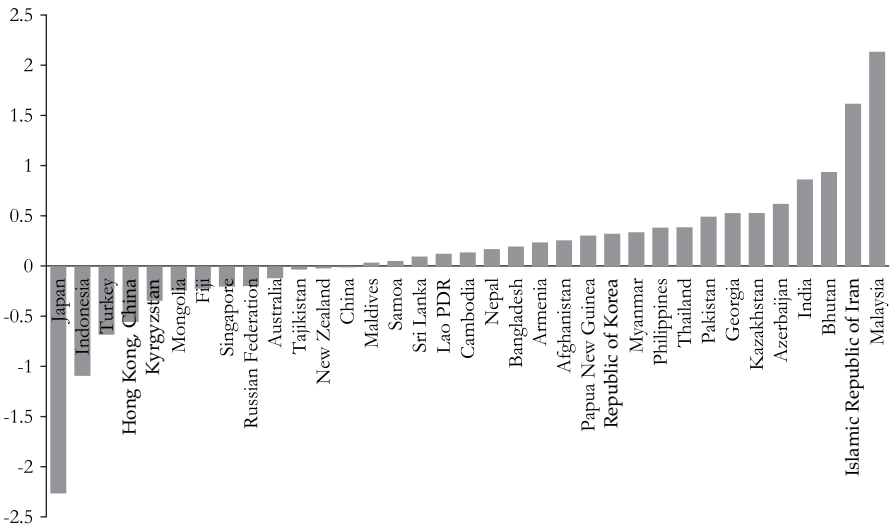
Source: Authors, based on IMF, Government Financial Statistics, CEIC Data, national sources and OECD.

drop in the share of direct taxes in the overall tax mix between 1990 and 2014 (figure 4.5).

Within direct taxes, CIT remains the largest component. On average, developing countries in Asia and the Pacific collect 3.6 per cent of GDP from CIT, which is more than the OECD average of 2.9 per cent of GDP. However, average PIT collection in the region is merely 2 per cent of GDP, compared with 8.8 per cent in OECD countries. CIT plays a positive role in acting as a withholding tax on foreign ownership and a progressive tax on domestic business owners. However, in an increasingly integrated world where capital has greater mobility, there is growing pressure on the tax due to tax competition¹¹³ and the risk that CIT burden could be shifted to labour (Harberger, 2006). In contrast, PIT is potentially the best tax instrument for

¹¹³ CIT rates worldwide have followed a decreasing trend in recent decades. The United States 2017 tax reform is a latest initiative in this direction.

Figure 4.5
Direct to indirect tax ratio, change between 1990 and 2014



Source: Prepared by the authors based on IMF GFS and CEIC data.

redistributive purpose, and is almost impossible to be shifted to another party by its nature. However, past experience also shows that PIT only performs if it is well-designed and well-administered and has sufficient coverage (Bird and Zolt. 2005). Therefore, extremely low levels of PIT collection are often a strong indicator of the failure of PIT in both revenue mobilization and income redistribution.

The difference between developing countries in Asia and the Pacific and developed countries is even greater when comparing social contributions. OECD countries on average collect 9.1 per cent of GDP through social contributions, and for some this figure is higher than 15 per cent. In Asia and the Pacific, in contrast, many countries collect little or no social contributions. Indonesia, for instance, only introduced a mandatory social contribution programme starting from 2015, with moderate contribution rates of 3 per cent from employee and 6 per cent from employer for pension and health insurance combined.¹¹⁴

Although the notion of mandatory social contribution is relatively new in the region, for countries that have already implemented the policy its collection levels are impressive. In Islamic Republic of Iran and Japan, social contribution is the largest component of the broader taxes definition,

¹¹⁴ <https://home.kpmg.com/xx/en/home/insights/2015/08/flash-alert-2015-104a.html>.

accounting for more than a third of the total tax revenue. In Armenia, China, Mongolia, the Republic of Korea, Russian Federation, Turkey and Uzbekistan, social contribution is only second to taxes on goods and services in revenue mobilization. Yet social protection and welfare coverage remains narrow in other cases, with biases in favour of public and formal sector employees. Such a bias could actually add to inequality rather than reversing it as recent studies suggest (Claus et al., 2012).

5. Personal income tax in Asia and the Pacific

Personal income tax (PIT) is widely considered a central component of a progressive tax system. In OECD countries PIT is not only a major public revenue source, but also contributes significantly to income redistribution for greater equality. Such experience of developed world formed a basis of the tax policy thinking in the 1950s and 1960s, which advocated for a central role of highly progressive and comprehensive¹¹⁵ PIT.

However, the experimentation of this idea in developing countries proved disappointing. PIT revenue remained largely stagnant and at very low levels compared to that of developed countries. The redistributive promise was also not realized, as income taxes in developing countries are often only progressive for certain types of income or certain ranges of income (Bird and Zolt, 2005). Indeed, the small revenue size of PIT in developing countries has significantly restricted the overall redistributive effect. Moreover, most of this revenue came from taxing labour income in the formal sector, while income from capital and other economic activities were often left out. As a result, upper-middle income working class rather than the top income class shouldered the burden.

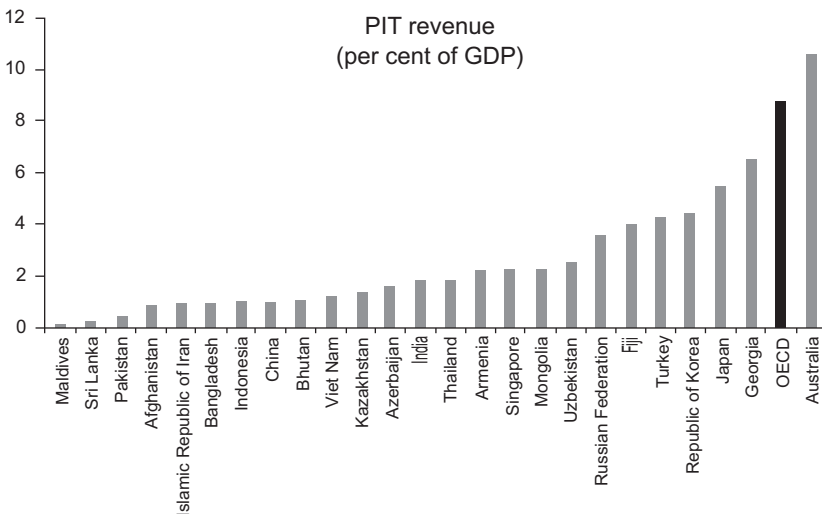
In addition, developing countries in general lack modern tax-related infrastructure (such as accounting, auditing, data collection and reporting) and capacity for effective administration of PIT. This, coupled with corruption, led to much higher administrative costs and compliance costs of a progressive PIT in developing countries than in developed countries, and left many loopholes that the rich, who are more resourceful and connected, could exploit.

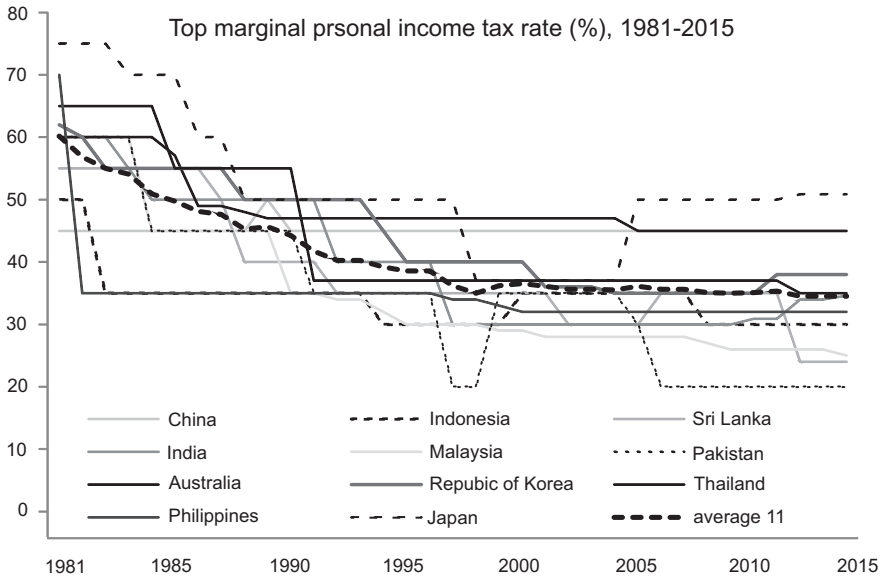
¹¹⁵ Comprehensive PIT taxes the aggregate value of all different income sources rather than on only a few income items. Reforms towards comprehensive PIT can include a progressive element as incomes from investment/capital gains, when taxed separately, are normally taxed at a flat rather than progressive rate.

The Asia-Pacific region is not too different from these general points. Average PIT revenue in developing countries of the region only grew marginally between 1999-2001 and 2014, from 1.8 per cent of GDP to 2.0 per cent, less than a quarter of the OECD average. At the same time, the region followed the global trend of decreasing top PIT rate. From 1981 to 2015, the average top PIT rate was almost halved in the 11 Asia-Pacific countries (figure 4.6). Such a significant change reflects revision of the earlier emphasis on highly progressive rates and the transition towards a new set of “best practice” anchored on flatter rates and a broader base in the 1980s and the 1990s, to minimize collection challenge and economic distortion.

The PIT base in the Asia-Pacific region also remains narrow, partly due to high exemption thresholds compared to per capita gross national income (GNI). Higher PIT threshold to per capita GNI ratios imply broader PIT exemption and a drain on revenue, as seen in Pakistan where a vast majority of the population are exempted from paying PIT. Broad PIT exemption could be advisable for countries with average income just above the poverty level and hoping to build a vibrant middle class. But for middle or upper middle income developing countries a gradual broadening of PIT base should be a long-term objective. In addition, PIT revenue depends on the design of the tax as well. India, for example, has a much higher PIT exemption threshold (as a ratio of per capita GNI) than China, and slightly lower PIT rates (10-30 per cent compared to 3-45 per cent in China), yet it collects 1.9 per cent of GDP from PIT while China collects only 1.1 per cent

Figure 4.6
PIT revenue and PIT top marginal rate





Source: Authors, based on IMF Government Financial Statistics, KPMG, Ernst & Young, CEIC Data, and Sabirianova Peter, Buttrick and Duncan (2010).¹¹⁶

¹¹⁶ Historical top PIT rate in Australia can be found at <https://www.ato.gov.au/Rates/Individual-income-tax-for-prior-years/> and <https://atotaxrates.info/individual-tax-rates-resident/pre-2010-tax-rates/>.

of GDP. A main reason for this difference is that PIT in India is more comprehensive, targeting aggregated income of different types, while China taxes different income types separately (box 4.1).

Box 4.1

A tale of two nations: PIT in China and India

China and India are two representative cases of PIT implementation and reform in Asia and the Pacific. Their experience also provides a good example of how historical and social-cultural background could shape PIT policies and PIT performance.

India introduced PIT early and considered it as a principal policy tool for income redistribution between the 1950s and the 1980s. For this period, India has one of the world's highest top PIT rates, and this went to an extreme when the rate reached a confiscatory level of 97.5 per cent in 1973-1974 with the purpose to establish a ceiling on income at Rs. 250,000 at that time (Rao and Rao, 2009).

Such excessive focus on progressivity and confiscatory PIT rate led to large-scale tax evasion and serious distortion of economic incentives. As a result, India started to gradually transform into a different PIT regime with flatter rates and less brackets. In the beginning of the 1990s, India

introduced a highly streamlined scheme with only three PIT brackets (compared to 11 in 1970s) of marginal tax rates at 20 per cent, 30 per cent and 40 per cent. The rates were further reduced to 10 per cent, 20 per cent and 30 per cent, levelling top PIT rate with CIT rate. Empirical evidence suggests success of these reforms with significant improvement in compliance and increase in PIT revenue despite much lower rates (Rao and Rao, 2005).

At the same time, PIT in India retained its redistributive effect in other aspects. For example, senior (60-80 years of age) and very senior (80 years of age or above) citizens enjoy much higher PIT exemption thresholds than normal individuals. India also keeps an additional surcharge targeting the superrich and an education cess on top of the normal PIT. The surcharge on the superrich is further expanded to cover a broader group of those with high income in the 2017 budget plan. This reform is also accompanied by halving the tax rate for the lowest PIT bracket from 10 per cent to 5 per cent, which is expected to benefit the large low- and middle-income populations.

China, in contrast, only introduced PIT in the 1980s, which comprised an “income adjustment tax” on individual citizens, a special tax on self-employed small business owners and a separate tax on foreign individuals working inside the country. These three taxes together only covered less than 0.1 per cent of the population at the time.

Like India, China also implemented several reforms to streamline the PIT Scheme. It introduced a unified PIT for all citizens/individuals in 1994, and decreased the number of PIT brackets from 9 to 7 in 2011. China also gradually extended PIT coverage from mainly wage income to incomes from savings, capital and other business activities. However, China did not integrate these different income types into a single comprehensive PIT schedule, but kept a 7-bracket progressive schedule for wage income, a 5-bracket progressive schedule for income from business activities, and a flat rate on capital/property returns. Such a pragmatic approach decreased challenges of PIT administration but gave rise to serious concerns about PIT progressivity as capital and property returns are taxed at the much lower rate than the top wage PIT rate (20 per cent versus 45 per cent).

In addition, the top PIT rate of 45 per cent in China is much higher than the CIT rate of 25 per cent. As a result, many business owners took the advantage of hiding their real income and expenditure in business expenses, and ultimately enjoy a much lower tax rate than the fair level. India in contrast has the same top PIT and CIT rate, thus do not suffer from such distortion. On the other hand, PIT in both China and India are based on individual income rather than family income, which cloaks real income difference and living burden across families.

Another interesting comparison between China and India is the evolution of PIT threshold and PIT base. China is much more successful in expanding the PIT base. The share of income tax payers in total population in China increased from less than 0.1 per cent in 1986 to 20 per cent in 2008, while the figure in India remained largely stagnant (Piketty and Qian 2009). Part of the reason is that PIT exemption threshold compared to average income is much lower in China than in India (table 4.2). However, the dominating driver of China’s broadening PIT base is its economic success which lifted hundreds of millions from poverty into middle class. In India, such transition is still at an early stage.

Most importantly, the supposedly smaller PIT base and lower PIT rates in India didn't jeopardize PIT revenue mobilization, and it outperforms China consistently in recent years. In 2014, China collected only 1.1 per cent of GDP from PIT, while India collected 1.9 per cent of GDP. Moreover, given the distortions of a more complex PIT schedule and different PIT and CIT rates, PIT in China could also be less progressive than in India since the rich are usually much better positioned to exploit these loopholes and evade the tax. This is a clear indicator that a more streamlined and less distortive PIT regime could deliver better in implementation than a seemingly more progressive and broad-based regime.

Table 4.2
PIT exemption threshold in China and India

Country	PIT exemption threshold/ GNI per capita			PIT exemption threshold 2014/1996	PIT as % of GDP 2014
	1996	2008	2014		
China	1.7	0.8	0.9	4.4	1.1
India	2.8	3.2	2.6	6.3	1.9

Source: ESCAP calculation based on official government data.

The point worth highlighting again is that the ultimate PIT policy choice is country-specific. Two countries at similar development stage and with other similar social and economic features could still make very different choices. These different choices could be both optimal for that specific country at that specific time.

Empirical analysis suggests that PIT does have a positive redistributive effect in Asia and the Pacific, and the marginal effect could be higher than in other parts of the world (Claus et al., 2012).

The high PIT exemption threshold and the presence of large informal employment in developing countries in the region may have contributed to this higher marginal redistributive effect, since it effectively 'untaxes' most poor people. As the middle class of the region grows larger and PIT coverage expands and gradually incorporates the informal sector, this effect could become smaller over time.

Meanwhile, the importance of addressing PIT evasion, especially by the rich, should not be overlooked. In Pakistan for instance, the Federal Board of Revenue discovered in 2012 that more than 1.5 million adult citizens who had travelled abroad at least once a year over many years did not register with the tax authorities. About half a million people who had multiple bank accounts also did not register. Of the 341 members of the

National Assembly, only 90 had filed tax returns in that year.¹¹⁷ The damage of such weak PIT compliance by the rich and the elite is significant, as it casts serious doubts on the accountability and fairness of the system, undermining efforts to create a conducive tax culture in a society.

Going forward, countries should be fully aware that there is no simple one-size-fit-all formula for PIT implementation. The timing, sequencing and detailed design of PIT policies must account for local economic, social and cultural contexts, and capacity constraints for compliance and administration. A moderately progressive but well-designed PIT, which is manageable and accountable, outperforms an overambitious strategy that is only better on paper. This is particularly true in terms of a long-term strategy where policies are often path-dependent and a bad start could leave undesirable legacies.

In general, countries should choose their PIT implementation strategy according to their development stage and their experience and capacity in PIT administration. A country with a small middle class and large poor population could focus more on “untaxing” poor people and introducing an easy-to-manage PIT design targeting the top income individuals. A middle-income developing country could adopt a more balanced approach of gradually broadening the PIT base by including the emerging middle class into the PIT regime and at the same time strengthen PIT administration to effectively tap capital and other non-wage incomes. A more advanced developing country with stronger governance and administrative capacity could experiment with a more ideal PIT design with broad coverage and greater progressivity, and seek to meet new challenges like expanding income sources from abroad.

6. The potential of taxes on wealth and property

Tax on wealth, including recurrent taxes on wealth and property as well as inheritance/estate/gift tax, is another important fiscal tool to reduce inequalities in a society. In general, taxes on wealth and inter-generational transfer of wealth are highly progressive, targeting only the richest group in most cases. Importantly, they are essential to prevent excessive concentration of wealth and power in the hands of a few (Piketty, 2015), and to ensure greater equality of opportunity across generations. The progressivity of property tax on the other hand is less straight-forward and depends heavily on the specific design.

¹¹⁷ Norwegian Centre for Conflict Resolution (NOREF) Expert Analysis 2014 citing the statement by FBR chairman in February 2013.

In OECD countries, property tax is an important component of the overall tax mix while wealth taxes in most cases play a minor role. Together, they contribute close to 2 per cent of GDP on average, although variation is significant across countries. In contrast, revenue from property and wealth taxes remains highly limited in Asia and the Pacific. Of all the region's developing countries, only China manages to collect more than 0.5 per cent of GDP in property tax, and taxes on inheritance/estate/gift only exist in a handful of them. These include Islamic Republic of Iran, the Philippines, Thailand and Viet Nam.

Notably, two OECD members of the Asia-Pacific region, namely Japan and the Republic of Korea, manage to raise substantial amount from inheritance/estate/gift taxes. These two countries respectively collected 0.4 per cent and 0.3 per cent of GDP from inheritance/estate/gift taxes in 2016. They also have the world's highest inheritance tax rates at 55 per cent in Japan and 50 per cent in the Republic of Korea. This interesting contrast between Japan and the Republic of Korea and a number of other OECD countries which have abolished wealth taxes suggests that the use of wealth taxes is heavily shaped by the local historical, cultural and economic backgrounds.

The major obstacles for broader leverage of property and wealth taxes are disclosure and valuation. The ability of tax authorities to effectively identify the correct tax base and enforce compliance is essential for the overall efficiency and fairness of these taxes. Given the weak institutions, capacity constraints and lack of mature property and financial markets in developing countries, the task of estimating and taxing personal wealth could be extremely difficult. Even in developed countries, evidence suggests that the wealthier and more sophisticated groups are often more capable in exploiting the loopholes in the tax design or simply evading the taxes by hiding their wealth. In recent years, a general reform direction in OECD countries has been to simplify existing wealth taxes to reduce the tax administration challenges.¹¹⁸

Despite the operational problems, certain wealth tax instruments, such as the property tax and inheritance tax, remain important measures to reduce inequality, mobilize additional public revenue, and carry the political signal that the widening gaps between the rich and the poor would not be left unchecked. Alternative instruments that are less comprehensive¹¹⁹ but more effective and less burdensome in tax administration could also be explored (Oh and Zolt 2018).

¹¹⁸ See Chatalova and Evans (2013) for a comprehensive discussion on the issue.

¹¹⁹ A comprehensive wealth tax targets all wealth forms of an individual.

The use of property and wealth taxes in developing Asia-Pacific also diverges, shaped by different national priorities and operational considerations. India, for instance, recently abolished the wealth tax and replaced it with an extra 2 per cent income tax surcharge on the super-rich, while several higher-middle-income developing countries of the region are pushing forward to reap the social and economic benefits of wealth taxes. Thailand introduced inheritance tax for the first time in 2016. Although this initial step is less ambitious than expected,¹²⁰ it still marks a strengthened effort to contain widening inequality in the country. China is also preparing for the introduction of property tax and inheritance tax in the coming years (box 4.2). There are two unique features of China's initiative on this front. First, property taxes have been experimented at local levels and legislative intentions have been disclosed for further debate, in view of the complexity of the taxes and the importance of public support. Second, the design of property tax puts an emphasis on discouraging speculation in housing market and holding of multiple or luxury properties for investment purpose.

Such caution is advisable because adopting property and wealth taxes and effectively manage them would require significant investment of political and administrative resources. Developing countries need to carefully evaluate the associated tax design and tax administration challenges in the local context and weigh the expected economic and social benefits of adopting these taxes against the opportunity costs.¹²¹ Past experience suggests that the performance of prior wealth taxes, the ability to raise substantial revenue from property tax, and the effectiveness of PIT in taxing capital income are strong indicators of a country's potential in successfully adopting comprehensive wealth taxes (Oh and Zolt 2018).

¹²⁰ The tax is expected to affect fewer than 10,000 individuals and mobilize between \$28 million to \$56 million each year. Source: <http://www.loc.gov/law/foreign-news/article/thailand-first-inheritance-tax-in-decades-comes-into-force/>.

¹²¹ For example, the administrative capacity and political resource could instead be channeled to support strengthened income taxes or more productive VAT to fund progressive public spending.

Box 4.2**The debate over recurrent property tax in China**

Recurrent property tax is widely viewed as a promising policy tool to adjust income/wealth distribution and contain the soaring real estate price that is draining household savings but benefiting developers and speculators in China. The progressivity feature of the tax is repeatedly emphasized and advocates argue that the introduction of recurrent property tax can directly target an important source of wealth inequality in China, force the rich and speculators to relinquish idle properties to the market, and eventually bring down real estate price for the poor who are not yet able to afford a home.

While the early experiments in Shanghai and Chongqing since 2011 show strong progressive features, which target only second or third property of a household and only the larger and more luxury houses/apartments, and enforces higher rates on luxury properties, the actual redistributive gains remain limited due to the narrow nature of these reforms. For example, in Chongqing less than 10 per cent of property owners are affected by the tax and the revenue from it has been less than 0.05 per cent of the city's fiscal revenue.

On the other hand, rolling out more comprehensive reforms to create a broad based recurrent property tax has been highly controversial, especially on its just/fairness, its redistributive effect between households and the Government, and its implications on inequality when the complex social and economic dynamics kick in.

First, China does not have private land ownership and the Government is the only owner and supplier of land. Through the sales of land usage right, the Government mobilized as much as 7 per cent of GDP annually in the previous years. In first tier cities, the land cost could account for more than two thirds of the total price of a residence property. As a result, many property owners feel that the recurrent property tax is simply double taxation on what they have already paid for.

Second, given the monopoly power of the Government over land supply and its dependence on land revenue, there is a pessimistic view that the broad-based recurrent property tax is unlikely to bring the real estate price down for the poor, as maintaining high real estate prices for revenue would be a first-order consideration for local governments. In this scenario, the recurrent property tax could be easily shifted onto new urban immigrants and tenants as their demand for an urban home is less elastic compared to land supply, further widening the inequality.

Third, not all residents in expensive city districts are the rich who paid the market price to move in. Many ordinary middle or lower-middle class families from central urban areas or near suburbs only experienced the rising valuation of their property passively as the city grows and expands. Since they are not able to afford the recurrent property tax based on the high market value, they could be driven out and replaced by the rich who pay to enjoy the convenience and better public services (education in particular). This will result in even greater inequality in the distribution of public welfare.

Fourth, there are many different types of public or semi-public housing in addition to commercial housing in China. Due to historical reasons, large proportions of the public or semi-public housing do not have complete property rights and are not fully tradable. For these reasons these properties

tend to have lower market values. As a result, the owners of these properties would enjoy a significant property tax advantage over the owners of commercial housing, which has much higher market valuation.

Last but not least, the flawed property registration system leaves loopholes for tax evasion, especially when exemption for first property is a standard practice. Cases have been reported of corrupted officials and individuals holding different properties using different identification cards. Such loopholes could become a source of the most resented type of inequality if the recurrent property tax is implemented in a rush.

The complex nature of the local context has made the simple narratives on the merits of the broad-based recurrent property tax murky, and has been a reason that stalled China's property tax reform agenda. While the necessity of the reform remains a broad consensus, recurrent property tax is likely to remain more like a luxury tax after six years of experimentation in the country. This illustrates the challenges of policy design and implementation in the real world, even when the general direction is correct and clear.

7. Conclusion

Taxation, in particular progressive income and wealth taxes, is an important component of the modern social and economic policies that maintain a balanced distribution of income and wealth in a society and promote shared prosperity. Together with other policy measures like labour protection and progressive public spending, it plays an important role in building more inclusive and harmonious societies in today's developed countries.

As developing countries in the region become middle-income and higher-middle income economies and begin to experience the negative impacts of rising inequality that come along with rapid economic growth, the transition from a sole focus on speed of economic growth to a more balanced strategy that emphasizes inclusive development will need to take place.

Many developing countries of the region have already prioritized inequality reduction in response to the growing public pressure when people become increasingly aware of and concerned with the inequality gap. This policy transition coincides with the adoption of the 2030 Agenda for Sustainable Development which represents an international consensus on a more balanced, comprehensive and forward-looking framework of sustainable development.

However, measuring the progressivity of a tax system remains a challenging task, and the ultimate impact of a tax on inequality may depend not only on its type and size but also on the design details and implementation quality. Furthermore, incomplete information on income

and wealth, weak tax administration capacity and corruption can lead to outcomes that favour those more sophisticated in hiding their sources of income and assets or in exploiting loopholes in the system, even if the policies are well intended and designed in theory.

A seemingly progressive PIT rate schedule could be neither productive in revenue mobilization nor progressive if the tax targets only salary income while leaving capital/property gains and income from professional services out. An extremely high PIT rate may result in widespread tax evasion and a distorted tax structure when the rich attempt to hide their income and wealth in the expenses of corporates owned by them. A hasty introduction of wealth taxes in the context of weak institutions and administrative capacities could translate into greater tax burden on the middle class but effective tax exemption for the rich as they are more sophisticated in tax evasion.

However, this does not mean that developing countries should refrain from such efforts. The transition towards more inclusive development and the more effective use of taxation tools for redistributive purposes need to be the long-term trend. Shying away from it does not mean that the challenge could be bypassed or the pressure will not grow. On the contrary, delayed policy experimentation and reforms could only lead to greater difficulties later.

The success of strengthening progressive direct taxes in the overall tax mix depends on the readiness of a country in its economic foundation, institutional and administrative capacities, and most importantly the social consensus and political will to push forward the necessary reforms. A pragmatic strategy is to keep promoting public debate and consensus on the subject and target small-scale progress that is feasible under the current circumstances, while being patient for an opportunity for comprehensive policy changes. Taking pragmatic small steps and conducting policy experiments will also help identify the most suitable policy package and implementation approach in the local context.

For countries at different stages of development, different strategies should be followed. Higher-middle income countries, which are experiencing growing public concern over inequality and at the same time better equipped with institutional and administrative capacities, can make more ambitious efforts to leverage progressive taxation tools and increase the share of direct taxes over time.

Middle income countries that are in the middle of economic take-off and already witnessing rising inequality can focus on a smaller number of reforms to rationalize and improve the productivity and implementation quality of existing income or property/wealth taxes. For these countries, it

is probably more important to gather policy experience through continuing reforms and policy adjustments and strengthen capacity of policy design and tax administration rather than rolling out complex reforms without adequate due diligence.

For low-income countries that are still at an early stage of economic development and characterized by widespread poverty, the policy focus could instead be strengthening revenue mobilization and the accountability of the national tax system through reforms to modernize tax policies, enable the most productive tax tools and enhance tax administration, in order to sustain economic growth and seek to reduce inequality from the expenditure side. On the tax side, untaxing the poor and improving tax administration so that the rich pay their fair share would be far more effective and much less costly than adopting highly complex and distortive progressive tax systems.

Countries need to anchor their policy making on the actual redistributive effects and cost-benefit trade-offs of progressive tax tools and policies rather than on theoretical assumptions. They should evaluate the effects of policies and should be prepared to adjust their policies according to local context and realities. In particular, the policy design must take into account the behavioural responses of tax payers, the capacity constraints of tax administrations and the historical/cultural background which may have profound implications on the level of success of the reforms.

Policymakers and to some extent also the general public need to understand that there is a learning curve of policy design and implementation when it comes to progressive taxation. The complex income and wealth taxes require a mature economic and institutional environment and a favourable tax culture to be effective, and also require time for policymakers and tax administrators to absorb lessons from actual implementation and develop innovative solutions to best fit into the unique local context. In this regard, patient experimentation and prudent decision-making are more likely to take the task of reducing inequality further than hasty actions.

References

- Acemoglu, Daron, and James A. Robinson (2002). The political economy of the Kuznets Curve. *Review of Development Economics*, vol. 6, No. 2, pp. 183-203.
- Alesina, A., and G. Angeletos (2005). Fairness and Redistribution. *American Economic Review*, vol. 95, No. 4, pp. 960-980.
- Alstadsaeter, A., N. Johannesen, and G. Zucman (2017a). Tax Evasion and Inequality. Available at <http://gabriel-zucman.eu/files/AJZ2017.pdf>.
- (2017b). Who Owns the Wealth in Tax Havens? Macro Evidence and Implications for Global Inequality. *Journal of Public Economics*, 2018 forthcoming. Available at <http://gabriel-zucman.eu/files/AJZ2017b.pdf>.
- Asian Development Bank (2012). Asian Development Outlook 2012: Confronting Rising Inequality in Asia. Manila. Available from www.adb.org/sites/default/files/publication/29704/ado2012.pdf.
- Atkinson, A., T. Piketty, and E. Saez (2011). Top incomes in the long run of history. *Journal of Economic Literature*, vol. 49, No. 1, pp. 3-71.
- Barro, R. (2000). Inequality and growth in a panel of countries. *Journal of Economic Growth*, vol. 5, No. 1, pp. 5-32.
- Barreix, A., J. Roca, and L. Villela (2007). Fiscal Policy and Equity: Estimation of the Progressivity and Redistributive Capacity of Taxes and Social Public Expenditures in the Andean Countries. INTAL-INT Working Paper 33. Washington, D.C.: Inter-American Development Bank.
- Bird, R.M. (2012). Taxation and development: what have we learned from fifty years of research? *IDS Working Papers*, vol. 2013, No. 427 (July).
- Bird, Richard M., and Eric M. Zolt (2005). The limited role of the personal income tax in developing countries. *Journal of Asian Economics*, vol. 16, No. 6, pp. 928-946.
- (2013). Taxation and Inequality in the Americas: Changing the Fiscal Contract? Working Paper 13-22, International Center for Public Policy, Georgia State University.
- Chandra, S.J., and others (2016). Sharing the growth dividend. IMF Working Paper, No. 16/48. Washington, D.C.: International Monetary Fund. Available from www.imf.org/en/Publications/WP/Issues/2016/12/31/Sharing-the-Growth-Dividend-Analysis-of-Inequality-in-Asia-43767.
- Chatalova, Natalia, and Chris Evans (2013). Too rich to rein in? The under-utilised wealth tax base. *eJournal of Tax Research*, vol. 11, No. 3, pp. 434-452.
- Chu, Ke-young, Hamid R. Davoodi and Sanjeev Gupta (2000). Income Distribution and Tax and Government Social Spending Policies in Developing Countries. IMF Working Paper No. 00/62. Available from: <https://www.imf.org/en/Publications/WP/Issues/2016/12/30/Income-Distribution-and-Tax-and-Government-Social-Spending-Policies-in-Developing-Countries-3515>.
- Claus, Iris, Jorge Martinez-Vazquez, and Violeta Vulovic (2012). Government fiscal policies and redistribution in Asian countries. Asian Development Bank Economics Working Paper Series No. 310. Manila: Asian Development Bank. Available from www.adb.org/sites/default/files/publication/30044/economics-wp310.pdf.
- Clifton, J., D. Díaz-Fuentes, and J. Revuelta (2017). Fiscal policy and inequality in Latin America, 1960-2012. In *Has Latin American Inequality Changed Direction?* L. Bértola and J. Williamson, eds. Cham: Springer.
- Cornia, G.A. (2012). Inequality trends and their determinants: Latin America over 1990-2010. Working Paper No. 9/2012. Helsinki: UNU-WIDER. Available from www.wider.unu.edu/publication/inequality-trends-and-their-determinants.

- Cornia, G.A., J.C. Gómez-Sabaini, and B. Martorano (2011). *A New Fiscal Pact, Tax Policy Changes and Income Inequality*. WIDER Working Paper 2011/70. Helsinki: UNU-WIDER.
- (2014). Tax policy and income distribution during the last decade. In *Falling Inequality in Latin America: Policy Changes and Lessons*. G.A. Cornia, ed. Oxford University Press.
- Estrada G., S.H. Lee, and D. Park (2014). *Fiscal Policy for Inclusive Growth: An Overview*. Asian Development Bank Economic Working Paper Series No. 423.
- Fields, G. (1995). *The Kuznets Curve: A good idea but*. Unpublished working paper. Ithaca, NY: Department of Economics, Cornell University.
- Gómez Sabaíni, J.C., B. Martorano, and D. Morán (2016). *Taxation and inequality: lessons from Latin America*. In *World Social Science Report 2016*. Paris: United Nations Educational, Scientific and Cultural Organization.
- Gómez Sabaíni, J.C., and D. Morán (2014). *Tax Policy in Latin America: assessment and guidelines for a second generation of reforms*. Macroeconomics of Development Series No. 133. Santiago de Chile: United Nations Economic Commission for Latin America and the Caribbean.
- González, I., and R. Martner (2012). Overcoming the “empty box syndrome”. Determinants of income distribution in Latin America. *Cepal Review*, 108, pp. 7-25.
- Harberger, Arnold C. (2008). *Corporate tax incidence: reflections on what is known, unknown and unknowable*. In *Fundamental Tax Reform: Issues, Choices, and Implications*. J.W. Diamond and G.R. Zodrow, eds. Cambridge, MA: MIT Press.
- International Monetary Fund (2014). *Fiscal Policy and Income Inequality*. Available from <http://www.imf.org/external/np/pp/eng/2014/012314.pdf>.
- Jain-Chandra, S. and others (2016). *Sharing the growth dividend: analysis of inequality in Asia*. IMF Working Paper No. 16/48. Washington, D.C.: International Monetary Fund. Available from <https://www.imf.org/external/pubs/ft/wp/2016/wp1648.pdf>.
- Kuznets, S. (1955). *Economic growth and income inequality*. *American Economic Review*, vol. 45, No.1 (March), pp. 1-28.
- Li, H., L. Squire, and H. Zou (1998). Explaining international and intertemporal variations in income inequality. *Economic Journal*, vol. 108, No. 446, pp. 26-43.
- Martorano, B. (2016). *Taxation and inequality in developing countries: Lessons from the recent experience of Latin America*. WIDER Working Paper Series 098, World Institute for Development Economic Research (UNU-WIDER).
- Mahon Jr., J., M. Bergman, and C. Arnson (2015). *Progressive Tax Reform and Equality in Latin America*. Washington, D.C.: Woodrow Wilson Center Reports on the Americas.
- Peter, Klara Sabirianova, Steve Buttrick, and Denvil Duncan (2010). *Global reform of personal income taxation, 1981-2005: evidence from 189 countries*. *National Tax Journal*, vol. 63, No. 3, pp. 447-478.
- Piketty, Thomas (2014). *Capital in the Twenty-First Century*. Cambridge, MA: Harvard University Press.
- Piketty, Thomas (2015). *Capital and wealth taxation in the 21st century*. *National Tax Journal*, vol. 68, No. 2 (June), pp. 449-458.
- Piketty, Thomas, and Nancy Qian (2009). *Income inequality and progressive income taxation in China and India, 1986-2015*. *American Economic Journal: Applied Economics*, vol. 1, No. 2 (April), pp. 53-63.
- Rama, Martin, Tara Bételle, Yue Li, Pradeep K. Mitra, and John L. Newman (2015). *Addressing Inequality in South Asia*. Washington, D.C.: World Bank Group.

- Rao, Govinda, and Kavita Rao (2005), Trends and Issues in Tax Policy and Reform in India. Working Paper. Available from www.brookings.edu/wp-content/uploads/2016/07/2005_rao.pdf.
- Tsounta, E., and A.I. Qsueke (2014). What is behind Latin America's declining income inequality? IMF Working Paper No. 14/124. Washington, D.C.: International Monetary Fund. Available from www.imf.org/external/pubs/ft/wp/2014/wp14124.pdf.
- United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) (2015a). Economic and Social Survey of Asia and the Pacific 2015: Realizing Inclusive Growth. Sales No. E.15.II.F.7.
- _____ (2015b). Time for Equality: The Role of Social Protection in Reducing Inequalities in Asia and the Pacific. Bangkok.
- Wang, Xiaolu, and Wing Thye Woo (2010). The size and distribution of hidden household income in China. Available from <http://faculty.econ.ucdavis.edu/faculty/woo/9.Wang-Woo.Hidden%20Income%20in%20China.2010-12-25.pdf>.
- World Bank (2016). Indonesia's Rising Divide. Washington, D.C. Available from <http://documents.worldbank.org/curated/en/267671467991932516/Indonesias-rising-divide>.
- Zee, H.H. (2005). Personal income tax reform: concepts, issues, and comparative country developments. IMF Working Papers No. 05/87. Washington, D.C.: International Monetary Fund. Available from www.imf.org/en/Publications/WP/Issues/2016/12/31/Personal-Income-Tax-Reform-Concepts-Issues-and-Comparative-Country-Developments-18180.

5. Environmental Taxation in Asia and the Pacific

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1. Introduction

In the past, tax policies focused mainly on the economic aspect of taxation and tended to neglect the social and environmental dimensions. However, to contribute to the achievement of the Sustainable Development Goals (SDGs), the tax systems of the future will need to take the real cost of environmental and social impacts into account and so foster sustainable investment decisions. In the past, rapid rates of economic growth in much of the Asia and Pacific region were largely based on an unsustainable development model that externalized economic, environmental and social costs. Capital was allocated to fossil fuel based and resource and energy inefficient industries at the expense of greater investment in renewable energy, energy efficiency, sustainable public transportation, sustainable agriculture, ecosystem and biodiversity protection, and land and water conservation (UNEP, 2011, ESCAP et al. 2012). However, the costs of proceeding along the current resource intensive development path in a business-as-usual scenario are considerable and projected to rise over the coming decades, if corrective measures are not introduced. A particularly resource inefficient region, Asia-Pacific needs double the quantity of material resources as input to produce each dollar of GDP in comparison to the rest of the world, and is responsible for 32 per cent of the world's economic output (ESCAP 2017). At the same time, fiscal space in

developing countries in Asia and the Pacific is a challenge for Governments that need to pursue priority development issues. For these reasons, rethinking and recalibrating tax and public expenditure policies for sustainable development in the region is both necessary and helpful.

Environmental taxes can be an effective way to introduce economic, social and environmental costs into the price of environmental goods and services and create incentives for sustainable practices. The Asia-Pacific region is reaching the peak of available resources to sustain the economic growth rates, as well as the capacity of the natural eco-systems to function as sinks for the increasing wastes and emissions. Environmental taxes can equalize the costs for managing those factors and generate resources for investment in restoration of natural ecosystems, as well as in social programmes, or other government spending. To respond to these challenges, environmental taxes should be an integral component of any sustainable development strategy, alongside regulatory and voluntary measures. Indeed, ESCAP considers environmental taxation and fiscal reform to be amongst the most promising instruments to achieve green growth for sustainable development in the Asia-Pacific region (ESCAP 2012). This is because taxation and public spending can act as important tools to drive the transition towards a low-carbon, climate resilient economy, as they can facilitate growth-enhancing public investments and counteract rising inequality, help to manage the negative impacts of unsustainable economic growth, and create incentives for more environmentally responsible practices.

Environmental taxation is defined by the OECD as: “A tax whose tax base is a physical unit (or a proxy of it) that has a proven specific negative impact on the environment.”¹²² The OECD distinguishes between four subsets of environmental taxes, including taxes on energy, transport, pollution and resources, which are becoming more popular in the Asia-Pacific region. In recent years, some developing countries in the region took the first step towards eliminating fuel subsidies and are moving towards further reforms to modernize their fiscal governance and tax practices and make greater use of environmental taxation as a central component of their national development strategy. Indeed, several countries in the region are frontrunners in the implementation of environmental taxation, including Indonesia with fossil fuel subsidy reform (Section 4), India with the Clean Environment Cess (Sections 5.3 and 6.3), Viet Nam with the Environmental Protection Tax (Section 5.7), China with differentiated grid prices for desulphurized electricity (Section 5.7) and Thailand with environmental taxes (Section 6.4).

¹²² See the OECD glossary of statistical terms at: <http://stats.oecd.org/glossary/detail.asp?ID=6437> (accessed 27.03.2018).

This chapter offers practical guidance on how Governments can reform tax systems and use fiscal policy to drive the transition to a low-carbon, climate-resilient economy while taking into account the specific challenges of developing countries in the region. It makes a series of recommendations for policymakers in terms of both strategic considerations and policy design.

This chapter focuses first on important strategic considerations to ensure that measures are politically feasible, including linking measures to policy priorities, engaging with industry stakeholders and the general public to ensure that the rationale of environmental taxation is understood, and taking their legitimate concerns into account and developing compensation measures carefully. Whether for business or poor households, the authors look at how compensation can deliver win-win outcomes and protect those affected while fostering a transition towards a greener, more energy efficient economy while ensuring that compensation is time-limited and subject to regular review. Given that environmental taxation is a cross-cutting issue, this chapter recommends the involvement of key government ministries and agencies in the policy process to facilitate interministerial consensus and the involvement of industry stakeholders to highlight potential benefits for business and garner industry support during the policy process.

In terms of tax design, this chapter looks at how to identify a tax base that can be administrated and monitored easily and at a low cost and recommends tagging instruments on to functioning tax collection mechanisms if fiscal capacities are low. Implementing tax escalators or linking tax rates to inflation or gross domestic product (GDP) growth can help maintain the incentive effects of environmental taxes over time, while implementing such taxes over a long time horizon signals to investors that a policy is stable and predictable, and may thus encourage investment in low-carbon, energy-efficient and pollution-reducing technologies.

This chapter also looks at issues related to expenditure of revenues from environmental taxation. Recycling a proportion of revenue to corporate or personal income taxes can encourage potential taxpayers to move into the formal economy. At the same time, because environmental taxes tend to be difficult to evade, they may also give policymakers the opportunity to increase tax revenues as a proportion of GDP and to use those revenues to improve fiscal capacities or invest in the green economy transition. Using revenues to promote the green economy can reduce the overall cost of pollution reduction measures, as can implementing a policy package with complementary measures such as energy-efficiency labelling or investments in restoration of natural eco-systems which function as sinks for pollution generated by production activities.

However, even though environmental taxes have the potential to generate multiple benefits, their design and effective implementation in the context of developing countries remains a challenge. Thus, this chapter takes a close look at these challenges, expectations and the potential of environmental taxes in the Asia-Pacific region and on the basis of selected case studies, highlights important lessons learned. Policy options and recommendations are discussed based on local experience from the region as well as international lessons and best practices.

2. Transition to an environment-friendly economy and the rationale for environmental taxes in Asia and the Pacific

Inclusive green economy policies – also referred to as green growth policies – foster economic growth and development while ensuring that natural assets continue to provide the resources and environmental services essential for human well-being, ensuring the compatibility of economic and environmental sustainability (ESCAP et al. 2012; ESCAP 2012). To achieve this, it is important to catalyse green investment and innovation, to underpin sustainable economic growth and generate new economic opportunities (OECD 2010b). One of the most important elements in the green growth policy toolkit is environmental taxation, due to its role in changing relative prices, thus directing capital investment towards green and sustainable technologies (ESCAP 2012).

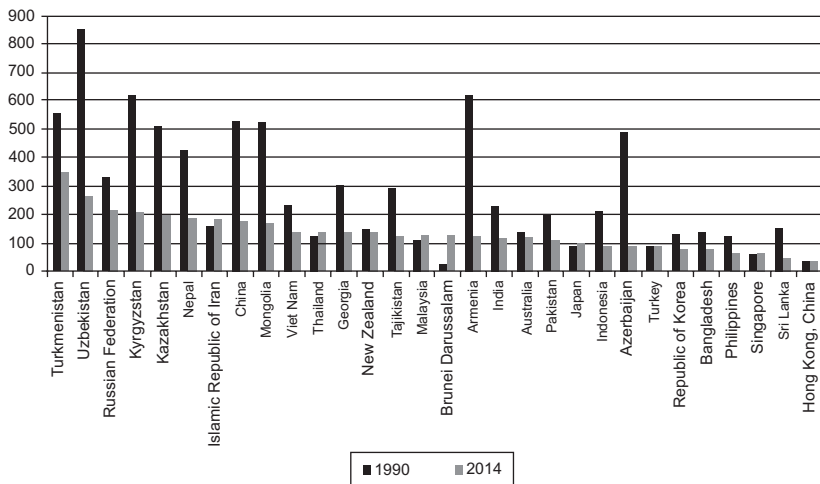
2.1 Challenges and opportunities

Several developing countries in the Asia-Pacific region have achieved high rates of economic growth through unsustainable growth models. Those modes relied on high rates of fossil-fuel energy consumption and energy intensity, inefficient resource use, high greenhouse gas (GHG) emissions intensities, fostered unsustainable agriculture, unsustainable use of water resources and unsustainable transport approaches, and resulted in local pollution and natural resources and ecosystems degradation. As a result, the Asia-Pacific region is reaching the peak of its available resources to sustain economic growth at current rates and its ecosystems are at capacity in their function as sinks for wastes and emissions.

Between 1990 and 2012, total GHG emissions in Asia and the Pacific rose by 70 per cent, from 15,755 to 26,725 metric tons carbon dioxide equivalent, and GHG intensity – the ratio of GHG emissions to GDP – is now four times higher in the Asia-Pacific region than in Europe. Similarly, energy intensity in the Asia-Pacific region – the ratio of energy consumption to GDP – is also much higher than that of developed countries, though it is being steadily reduced (see figure 5.1). In 2015,

energy intensity levels in China were 50 per cent higher than the average of the member countries of the Organisation for Economic Co-operation and Development (OECD), but had improved by 5.6 per cent year-on-year over the previous decade. In China's power sector in 2015, energy efficiency gains avoided the need for over \$230 billion in investment for new (mostly coal-fired) electricity generation – equivalent to avoided emissions of 1.2 billion metric tons of carbon dioxide in 2014, as much as Japan emits annually.¹²³

Figure 5.1
Total energy intensity, selected Asia-Pacific countries 1990 and 2014
in kilograms of oil equivalent (per \$1,000 GDP, 2005 PPP)



Source: ESCAP based on data from Asia Pacific Energy Portal 2017.

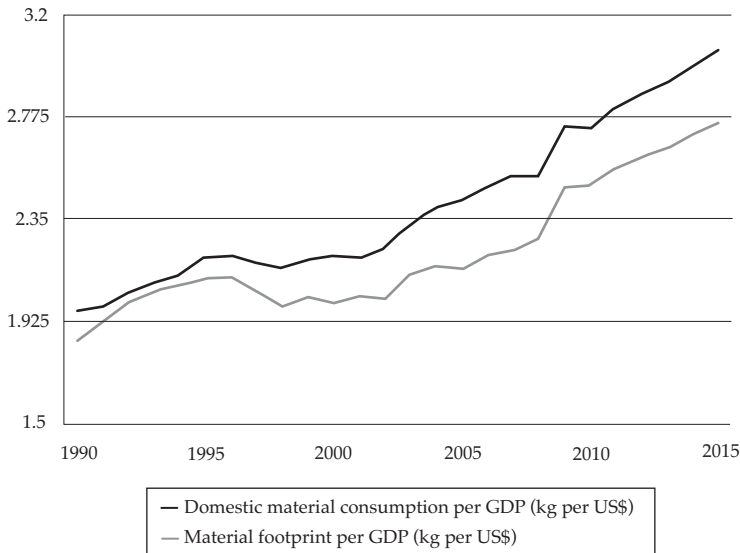
The potential for improvement is evident. Current GHG emissions intensity and energy intensity reflect the earlier development stage of many Asia-Pacific countries in comparison to OECD countries – yet this discrepancy also highlights the potential for improved energy efficiency and environmental quality in the region.

Alongside the negative impacts of wasteful energy policies, many countries in Asia-Pacific are also facing growing pressure on natural resources. Growth in resource use has been intense in the last 45 years and total domestic material consumption increased more than six-fold between

¹²³ ESCAP Statistical Database, Available from http://data.unescap.org/escap_stat/#home; and ESCAP based on data from Asia Pacific Energy Portal 2017.

1970 and 2010, driven by growth in fossil fuel consumption and construction materials (see figure 5.2).

Figure 5.2 Trends in resource intensity 1995-2015 (kg per USD)



Source: ESCAP calculations based on ESCAP Statistical Database; see http://data.unescap.org/escap_stat/#data/. Note: The aggregated value is weighted using GDP.

At the same time, local environmental problems such as water, soil and air pollution, which are having a severe impact on human health in many countries, have made it clear that the current growth approaches are unsustainable and costly. There is evidence that air pollution reduces life expectancy in northern China by five-and-a-half years and leads to 1.6 million premature deaths in the country (Science Daily, 2016). The most significant costs result from health damage from air pollution and the degradation of soil nutrients. Human-induced soil degradation has been highest globally in the Asia region since the 1990s. Water erosion is a serious problem in many countries and affects 21 per cent of the total land area. Wind erosion affects 9 per cent of the total land area, and chemical deterioration affects 11 per cent of land area, while the problem is extreme in countries including Bangladesh, Cambodia, Malaysia, Pakistan, Thailand and Viet Nam (FAO and Intergovernmental Technical Panel on Soils, 2015). The negative effects of climate change are increasingly felt in the region. In 2015, 84 per cent of the 19.2 million new displacements due to natural disasters occurred in the Asia-Pacific region (ESCAP, 2016a).

Governments in the region are more committed to mitigating the adverse effects of climate change and reducing carbon emissions than ever before, as reflected in the nationally determined contributions (NDCs) submitted to the United Nations Framework Convention on Climate Change. Twenty-one countries intend to use market-based instruments for carbon pricing to bring down emissions, focussing on energy, agriculture, forestry and land use, transport and waste, all of which can be targeted by environmental taxes (International Partnership in Mitigation and MRV, 2017; ESCAP, 2016a). The 2015 Paris Agreement, in which Member States of the United Nations Framework Convention on Climate Change agreed on a global transition path with the aim to keep global temperature rise this century well below 2°C above pre-industrial levels, reflects this sense of urgency. Alongside the implementation of the SDGs, such international agreements are putting increasing pressure on policymakers from beyond their borders to implement change, a pressure compounded from inside countries in the Asia-Pacific region. Given this sense of urgency, the region currently has a unique opportunity to shift investment towards a more sustainable development model by pursuing a low-carbon, energy-efficient and resilient development path.

The factors described above – revenue shortfalls due to weak fiscal systems, rising environmental degradation as a result of rapid economic growth based on an unsustainable development approach, and global commitments to joint action on climate and environment – offer policymakers a window of opportunity to consider environmental taxes. Current conditions seem favourable to pursue a transition towards sustainable development, particularly as this transition coincides with a new phase of economic transition and industrial upgrading in the leading economies of the region. The Asia-Pacific region adopted green growth as a strategy for achieving sustainable development at the 5th Ministerial Conference on Environment and Development in Seoul, the Republic of Korea, in March 2005. The Republic of Korea has been at the forefront of green growth initiatives and has a comprehensive policy framework for green growth in the short and long term in its National Strategy for Green Growth 2009–2050. China has become the largest investor in renewable energy (UNEP and Bloomberg New Energy Finance, 2016). Many countries in the region have adopted green growth approaches, combining relatively high rates of GDP growth with sustainable development. Following the 2008 global financial and economic crisis, many countries in the region recognised the value of green stimulus to help recalibrate their economies, with the Republic of Korea dedicating 80 per cent and China 38 per cent of their 2008 fiscal stimulus plans to green growth projects (HSBC, 2009).

Many developing countries in the Asia-Pacific region face significant fiscal challenges to finance the physical and social infrastructure required for sustainable development. Where fiscal space is limited, the flexibility for

Governments to spend budgets on development issues is constrained. Domestic resource mobilization, through environmental taxes for instance, is therefore particularly relevant for those developing countries with low tax to GDP ratios.

Improvements to the capacity and efficiency of domestic revenue raising has multiple benefits, including state-building, improved tax morale and thus rising domestic revenue potential over time (increased willingness to pay taxes) and improved capacity of Government to provide services. The latter is in turn closely linked to the development of a 'fiscal contract' or the understanding that taxes fund the provision of services and enable adequate government responses to many issues. Building the capacity of tax authorities and institutions of a modern economy can facilitate the development of sophisticated systems of finance and enable States to effectively pursue a green economy transition and ever more effective and efficient tax collection structures, creating a virtuous circle leading to sound fiscal governance (Bräutigam 2008).

OECD data show that environmental taxation as a percentage of GDP is generally lower in Asia-Pacific than the OECD average of 2.5 per cent, with the exception of the Republic of Korea and Turkey. Statistics also show that the share of revenues from environmental taxation has been declining since 2000, with considerable variation between countries (figure 5.3).¹²⁴ There are several reasons for this decline. First, many countries do not increase tax rates in line with inflation. Second, the economic crisis of 2008 may have depressed the environmental tax base, and increasing environmental tax rates may have led to behavioural changes in the long term, also resulting in a smaller tax base. Moreover, innovative environmental tax instruments may not generate a great deal of revenue, even when they are environmentally effective – the efficacy of a tax should be judged in the first instance in relation to its positive environmental impacts, and not on revenues raised. Finally, developing countries in particular tend to implement environmental taxes at low rates, or design environmental taxes in a way which does not result in increased revenue overall. In the 1990s and the 2000s, Thailand and India both applied a lower tax rate on unleaded fuels, rather than increasing taxes on leaded fuels, to (successfully) phase out leaded fuel (Cottrell et al., 2016).

¹²⁴ It should also be noted that these figures do not cover environmental fiscal policies such as fees or charges, payments for environmental services, or indeed revenue from emissions trading schemes, which may nevertheless generate significant amounts of revenue and have a positive environmental impact.

Figure 5.3
Environmental tax revenue as percentage of GDP

Countries	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Australia	2.41	2.35	2.33	2.26	2.23	2.05	1.98	1.93	1.85	1.86	1.80	1.78	2.07	2.13	1.91
China	0.38	0.64	0.71	0.80	0.84	0.82	0.84	0.84	0.81	1.30	1.44	1.37	1.40	1.37	1.33
India	..	..	..	..	..	1.28	1.18	1.10	1.05	1.02	1.00	1.06	1.00	0.97	0.95
Japan	1.73	1.75	1.76	1.77	1.74	1.75	1.72	1.68	1.61	1.68	1.60	1.60	1.58	1.55	1.48
Republic of Korea	2.65	2.88	2.66	2.67	2.51	2.81	2.77	2.92	2.81	2.51	2.82	2.53	2.63	2.56	2.54
Malaysia	0.54	0.59	0.56	0.53	0.48	0.40	0.30	0.26	0.24	0.26	0.24	0.24	0.24	0.24	..
New Zealand	1.67	1.65	1.68	1.57	1.42	1.40	1.36	1.36	1.27	1.27	1.34	1.31	1.31	1.33	1.35
Philippines	0.90	0.76	0.66	0.63	0.50	0.48	0.35	0.29	0.28	0.29	0.23	0.24	0.24	0.21	..
Turkey	2.77	2.87	3.62	4.35	3.65	4.12	3.71	3.62	3.40	3.53	3.94	3.74	3.63	4.06	3.83

Source: Reproduced from ESCAP (2016b).

In some countries, the trend of declining revenues is less evident. In Viet Nam, environmental tax revenues increased between 2000-2015 and in China, too, revenues increased between 2000-2014, and further changes are planned which are expected to perpetuate this trend. In Thailand, new measures to reduce GHG emissions in the transport sector were introduced in 2015, including a new system of vehicle registration taxes based on carbon dioxide emissions, expected to raise THB 10 billion, as well as a new system of transport fuel taxation based on carbon emissions and other measures to deal with waste, water pollution and transport.¹²⁵ The World Bank's Partnership for Market Readiness programme reflects a broad interest in the region for carbon pricing schemes of one sort or another.

This general trend of declining revenues highlights the potential for Governments to introduce or improve existing environmental taxes and thus increase fiscal space. Meeting this challenge will require the development of wide-ranging policy packages to correct market failures and counteract the drivers of unsustainable economic growth. An integral part of these packages will be the reform of fiscal systems to foster sustainable economic development. Already, many countries in the region have taken steps to initiate this process by reforming fossil fuel subsidies and developing environmental taxes on pollution or emissions trading.

To implement these green growth strategies and meet the targets specified in these international agreements, profound reforms of economic and fiscal management will be necessary. One essential element will be environmental taxation, as examined below.

¹²⁵ Statistics and information from interviews with Thai officials in 2015.

2.2 The potential role of environmental tax reform in Asian and Pacific countries

Environmental taxes can play an important role in the transition to a greener economic growth model. Environmental taxes are a particularly suitable policy response to market failure caused by externalities (OECD, 2017). By increasing the price of a particular good or service, environmental taxes correct distorted price signals that encourage environmentally harmful behaviour. Once these external costs are internalized and thus taken into consideration in the calculations of polluters and natural resource users, markets operate more efficiently and help improve social welfare through better allocation. Environmental taxes can also raise additional revenues and boost fiscal space, contributing to the need of developing countries to invest in infrastructure and other measures to pursue the SDGs and increase resilience to climate change impacts. In OECD countries, environmental taxes have already been widely used to decouple GHG emissions from economic growth and raise revenues for green investment. Similarly, in many developing economies, environmental taxes have been implemented to reduce pollution, foster conservation and reduce GHG emissions – as exemplified by taxes on fossil fuels in Costa Rica (see Cottrell et al. 2016, pp. 76-77), carbon taxes in Chile and Mexico (Cottrell et al. 2016, pp. 64-72), the Environmental Protection Tax in Viet Nam (see Section 5.7) and differentiated electricity pricing, pollution charging and an emissions trading scheme in China (see Sections 5.7 and 6.3 and Cottrell et al. 2016).

There is considerable potential for countries in Asia and the Pacific to leverage environmental taxation more effectively and efficiently to maximize fiscal and environmental benefits. In countries that already raise substantial revenue from environmental taxes, review and administrative improvement can enhance the performance of such taxes and ensure that their positive environmental impacts are maximized, as exemplified by the efforts of China to reform its system of pollution charging into a more efficient system of environmental taxation.

The multiple benefits of environmental taxation

The underlying rationale of environmental taxation is that it results in reduced environmental degradation stemming from changes in behaviour as the cost of polluting or otherwise damaging the environment increases due to the tax. Economic actors tend to respond to the price signal created by a tax, polluting less and using resources and energy more efficiently. Some environmental taxes are effective within a short timeframe when alternatives are readily available, the elasticity of demand is high and demand responds to changes in prices. Environmental taxation can also

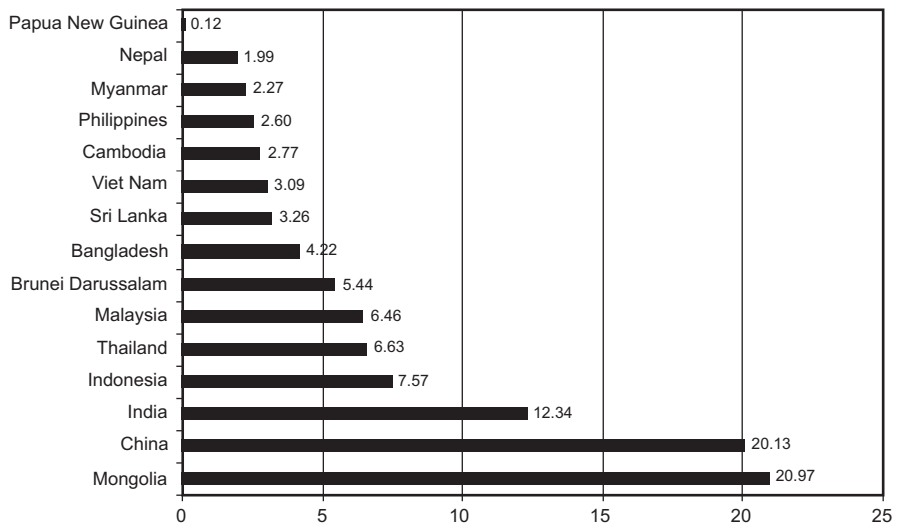
reduce environmentally harmful behaviour over a longer timeframe if directed towards goods and services with lower elasticity of demand, meaning demand decreases less in the short term.

As noted above, environmental taxes have the potential to increase revenues and boost fiscal space. Revenues can be used for environmental purposes, investment in restoration of natural ecosystems or to cushion the effects of higher energy prices for vulnerable consumers (Schlegelmilch et al., 2016). The revenue-raising potential of environmental taxation is especially important for developing countries with low tax to GDP ratios, as observed in many developing countries in Asia and the Pacific. At the same time, revenues spent on harmful subsidies are high in many Asia-Pacific countries, severely limiting the financial capacities of Governments. Phasing out subsidies in the first instance and replacing them with gradually increasing environmental taxes has the potential to unlock significant revenues in the Asia-Pacific region.

Figure 5.4 shows total energy post-tax subsidies as a percentage of GDP in selected Asian and Pacific countries as estimated by the International Monetary Fund (IMF).¹²⁶ The benefits of reforming such

Figure 5.4

Total energy post-tax subsidies as percentage of GDP, selected countries



Source: Based on IMF (2015).

¹²⁶ Post-tax subsidies as defined by IMF include the costs for the failure to charge for the environmental damage from energy consumption as well as foregone revenue as energy is not taxed the same way as other consumption goods.

subsidies are similar to those of environmental taxes, namely environmental improvements, increased fiscal space, a more efficient economy, reduced market distortions and possible additional economic benefits such as increased innovation.

Experience in OECD countries has shown that dedicated spending of a portion of environmental tax revenue on, for instance, energy efficiency improvements or renewable energy, can amplify the environmental benefits of a tax and should result in environmental improvements achieved at a lower cost than if taxes were implemented as a stand-alone measure (Ekins, 2009; Green Fiscal Commission, 2010).

The benefits of using a portion of revenue for low-carbon or green investment to facilitate a cost-effective and economically efficient transition to the green economy are equally applicable to countries in the Asia-Pacific region. While political earmarking – in contrast to legal earmarking, where earmarking is established by law and does not just represent a legally non-binding political agreement – may help to communicate the purpose of a particular environmental tax, legal earmarking of environmental tax revenues for specific government programmes is not advisable, as the revenues raised by a tax are not an indication of the level of spending required and may result in over- or underfinancing and misallocation of resources (Cottrell et al., 2016).

Environmental taxes are in general less distortive for the broader economy than taxes on personal or corporate income tax or VAT (Vivid Economics, 2012). Thus, a stronger focus on environmental taxation can result in efficiency gains in the tax system. Indeed, throughout the whole economy, efficiency gains attributable to the internalization of external costs also represent an economic benefit of environmental taxation, as non-internalized external costs act as a drag on green economy transition by discouraging investment in green technologies. Energy taxes may also lead to a reduction in fossil fuel imports as responses to rising energy prices result in energy efficiency improvements and increased deployment of renewable energies.

The human health benefits of reduced environmental degradation are clear. In general, poor people benefit disproportionately from environmental improvements, as they tend to live in informal settlements with poor sanitation, or in areas with poor air quality (Cottrell et al., 2016). The potential equity impacts of environmental taxation should also not be discounted, as discussed below.

3. Similarities and differences of environmental taxes in OECD and developing countries in Asia and the Pacific

In both industrialized and in developing countries, environmental taxes have been in place for many years. While a great deal of empirical research exists for OECD countries, analyses for developing countries, particularly in the Asia-Pacific region, remain less comprehensive. Only few ex post analyses of environmental taxes have been conducted so far (see Huong, 2014; Israngkura, 2014). Given the different conditions in developing countries, conclusions drawn based on research conducted in OECD countries should be applied with caution. While the developed countries in the Asia-Pacific region face similar conditions to OECD countries, such as Japan, Republic of Korea or Australia, many developing countries from the Asia-Pacific region face rather different challenges due to their different institutional, social, economic and political frameworks.

In the past in OECD countries, environmental tax reform (ETR) has focused on reforming the tax system by tax shifting (reducing distorting taxes on labour and increasing environmental taxes) rather than raising more revenues for domestic mobilization. However, one of the main challenges for developing countries is the mobilization of domestic resources, and thus revenue-neutral reform of the tax system is less relevant. Institutional challenges, such as weak governance, limited capacity and inadequate or missing data, also influence the kind of instruments developing countries can implement and enforce. Thus, policy instruments requiring limited monitoring, or monitoring of only a few large sources, or instruments where an easy-to-measure proxy for emissions can be implemented without a large monitoring burden may have greater appeal in developing countries. In addition, developing countries tend to have a large informal economy, making administration of indirect taxes easier. For all these reasons, environmental taxation can give policymakers an administratively feasible, simple and least-cost way of raising revenues, particularly in the case of energy taxes. Furthermore, a portion of environmental tax revenues can be used to cover monitoring, collection and enforcement costs, and another portion used to drive green transition (GTZ, 2008).

The social context tends to be more challenging in developing countries in Asia and the Pacific than in OECD countries. In both OECD and Asia-Pacific countries, income inequality is increasing.¹²⁷ However, in developing countries in Asia-Pacific, many households live in poverty or in

¹²⁷ See UNESCAP, 2016c, p. 38 and <https://data.oecd.org/inequality/income-inequality.htm>.

a financially precarious position. Welfare systems are poorly developed and are often implemented through wide-ranging energy or food subsidies, rather than targeted measures. This means that energy price increases due to subsidy reform can have a very significant negative social impact, and that such price increases may hit the poorest hard. Thus, great care must be taken to protect vulnerable people and ensure that environmental taxes complement social development and reduced poverty rates.

4. Fossil fuel subsidy reform

This section highlights the importance of subsidy reform as a first step towards more far-reaching environmental fiscal reforms (EFR), including the introduction of environmental taxes. Such reforms comprise mainly two elements: i) reform of environmentally harmful subsidies; and ii) the introduction of environmental taxes and/or the strengthening of environment-related taxes or tax elements, possibly within an environmental tax reform in which a tax shift reducing distorting taxes on labour is implemented (see definition given under Section 3 and the discussion under Section 5.5). Fossil fuel subsidies have been shown in many countries to disproportionately benefit the richest 40 per cent of the population (del Grenado et al. 2010; ESCAP 2012). Nonetheless, governments have to take care when reforming subsidies to ensure that the vulnerable are protected from energy price rises and indirect impacts, such as food price rises, by means of compensation – for possible approaches to social protection see Section 5.7.

Recent fossil fuel subsidy reform in Indonesia exemplifies the potential for reform to boost government revenue and reduce environmentally harmful behaviour. There are three main elements of successfully implementing a subsidy reform. First, setting the right energy price for a consistent and comprehensive phase-out of subsidies over time. This includes a series of structural reforms in energy markets, moving towards cost-recovery and market-based pricing and the creation of a competitive and efficient energy market. Second, analysing and forecasting the impact on vulnerable groups and international competitiveness, and implementing appropriate compensation measures. Third, building enough support for reform, so that reform plans are sustainable and comprehensive. All three elements can be seen to a greater or lesser extent in the case of Indonesia, as described in box 5.1.¹²⁸

¹²⁸ See IISD (2013) for a detailed guide to fossil fuel subsidy reform for policymakers.

Box 5.1**Fossil fuel subsidy reform in Indonesia**

The Indonesian Government used the window of opportunity created by falling world oil prices to implement a fossil fuel subsidy reform in December 2014. The reform removed subsidies on premium gasoline and introduced a “fixed” subsidy on diesel, setting the price at IDR 1,000 (\$0.08) below the market price. One of the reasons for the reform was that in 2014, the cost of subsidies turned out to be higher than planned and clearly fiscally unsustainable. The total amount for energy subsidies of IDR 350.3 trillion (\$28.0 billion) was 24.1 per cent higher than originally budgeted. Equal to around 18.7 per cent of total central government expenditures and 3.8 per cent of anticipated GDP, the Government had to make budget reductions for several ministries and government programmes in the Revised State Budget 2014 to sustain these expenditures. In parallel to subsidy reform, a number of new compensation systems, including a new health card and a cash transfer system to deliver funds directly to individual saving accounts, were introduced (IISD, 2015). Investments were also directed to the rural development funds that benefited the most vulnerable members of the society (ESCAP, 2012).

The fiscal impact of the reforms could be seen in the Revised Budget 2015, in which the state funds for fuel subsidies were reduced by IDR 211 trillion (\$16.9 billion) or over 10 per cent of all originally planned government expenditure in 2015 (IISD, 2015). The budgetary savings due to the reforms, implemented in January 2015, combined with the low world oil price, were expected to be around IDR 195 trillion (\$15.6 billion), equal to 9 per cent of total planned government expenditure. The savings made due to subsidy reform permitted Indonesia to invest in its core development priorities: in the Revised State Budget 2015, the budget for infrastructure was increased from IDR 190 trillion (\$15.2 billion) to IDR 290 trillion (\$23.2 billion) (IISD, 2015).

It is of note that subsidies were not removed completely. Instead, the cost of gasoline subsidies was transferred to PT Pertamina, which had to account for \$1 billion in costs in 2015 alone to cover the difference between market prices and subsidized prices. This financial burden threatened the liquidity of the state-owned company. To counteract this, an Energy Security Fund was set up in 2016 to stabilise fuel prices, subsidising them when global fuel prices are higher than domestic prices and using additional revenue to fill the fund while global prices are low. This will only work in times of low oil prices, however, and a more sustainable solution will require the phase out of the gasoline subsidy. There is also a risk that revenue required to supply the fund may come into conflict with budget priorities like social assistance and infrastructure development. Public acceptance is also likely to fall if world oil prices rise. It is therefore essential that the Government continues to support the vulnerable to address the impacts of energy price volatility and phases out the remaining fossil fuel subsidies.

5. Strategic considerations and political economy

When designing environmental taxes, policymakers must consider many strategic options to maximize the political feasibility of the reform and remove obstacles and opposition to its implementation. This section looks at strategic considerations and the political economy of environmental taxes, before subsequent sections provide recommendations for tax policy design. Such strategic considerations often result in trade-offs between environmental effectiveness, fiscal impact and political acceptability but are essential to inform and facilitate the development of successful and politically feasible tax policy instruments.

5.1 Interministerial cooperation and coalition building

Environmental taxation is an interministerial, cross-cutting issue and implementing it requires institutional capacities and a high level of collaboration and cooperation among several government ministries and agencies to develop sound and politically feasible policies. At the very least, ministries of finance and environment have to work together and often ministries of energy, industry and social policy as well. In developing countries, this can be particularly challenging where:

- Structures for interministerial cooperation tend to be poorly developed,
- Environment ministries tend to have low budgets and are not as powerful as in developed countries, and
- Ministries are competing for scarce resources and budgets.

For this reason, attention should be paid to synergies and shared interests between ministries and other governmental agencies, at both national and local levels. For example, finance ministries are more likely to support environmental taxes if these measures also work in their interest. The potential to raise a considerable amount of revenue, especially if at least partially used for the general budget, can be a strong argument to convince finance ministries to support the implementation of environmental taxation. Even if revenue is not used for environmental purposes, or only to a limited extent, environment ministries stand to benefit from environmental improvements due to the tax-incentivized changes to consumption and production patterns. Focussing on economic and social policy aspects might also help convince other ministries of the potential benefits of environmental taxation.

To establish a framework for discussion and enable all relevant institutions to provide input during the design phase, policymakers may create interministerial committees or working groups to reduce potential

conflicts through participation and exchange. Rivalry between ministries can thereby be reduced and potential concerns on the part of environment ministries that insufficient revenue will be used for environmental purposes can be minimized.

5.2 Communication and stakeholder engagement

At all stages of the policy process, stakeholders should be engaged and their views heard in consultations and hearings to allow for prudent planning as policymakers are made aware of the concerns of business and civil society. Involving stakeholders in policy development will create a sense of empowerment and enable policymakers to take their concerns into account in policy design, for example by providing suitable support or capacity building for the installation of new technologies, or introducing a tax escalator to give business time to respond to new policies.

Raising awareness and understanding of how environmental taxes work, their benefits and advantages, what alternative behaviours and technologies are available, and how people and enterprises can benefit from them, should be communicated to a wide audience. The underlying rationale of environmental taxation is not clear to many stakeholders: why increasing a tax on a particular good or service improves environmental quality is rarely understood. The strategies in table 5.1 may help to improve communication of environmental taxes.

Table 5.1
Strategies to resolve arguments against environmental taxes in public debates

Arguments against environmental taxes	Strategies to resolve arguments
Link between taxes and environmental improvement is not understood	Evolve vocabularies that reflect the impact of environmental taxes in a transparent manner Demonstrate how economic actors respond to price-induced changes
Taxes are coercive	Shift emphasis towards rewards and benefits Use revenue expenditure to highlight positive aspects of taxes
Taxes come at a cost to business and the public	Present the costs of environmental taxation as a policy choice and compare to the cost of other environment-related policies and to the costs of inaction Raise awareness of environmental taxation as a 'growth-friendly' tax
Environmental taxation is unfair	Communicate clearly whether the tax is regressive: Many environmental taxes are progressive (taxes on aviation, road transport) Focus on equity and the polluter pays principle Demonstrate how the policy will correct inequitable social impacts

Source: Based on Cottrell (2015).

5.3 Implementing broader fiscal reforms or individual taxes?

Country context is crucial in determining whether implementing a comprehensive package of environmental fiscal reform (EFR) or a single environmental tax is more institutionally feasible and reasonable. In some cases, a broader process of fiscal reform – a package of taxation and pricing measures to reform existing taxes and raise fiscal revenues while furthering environmental goals – may be more appropriate. Indeed, many countries have found implementing broader fiscal reform a promising route to foster political acceptance and facilitate the introduction of environmental taxes, as stakeholders focus on the most important aspects of fiscal reform proposals and environmental tax proposals are perceived in a broader context. In Sweden, for example, the carbon tax introduced in 1991 was part of a fiscal reform package, which resulted in a reduced tax burden overall. However, the more complex the legislation proposed, the more stakeholders both inside government (in ministries and other decision-making bodies) and outside it (business, civil society) will become involved in the decision-making process. In some contexts, it may thus be more feasible to focus on the implementation of a single measure, such as the reform of leaded fuel taxation in Bangkok in 1991.

Given the challenges facing policymakers implementing ETR, developing countries with less established systems of financial governance may prefer to focus on low-hanging fruits (easy wins) and windows of opportunity to introduce reform measures. Implementing taxes linked to environmental priorities, such as poor air and water quality with negative impacts on people's health and thus on labour productivity in cities, can more easily find support from Governments and key stakeholders.

Low-hanging fruits may also refer to measures that are administratively feasible and easy to realise in practice. India's Clean Environment Cess is linked to existing collection mechanisms and administration systems and thus requires little additional administrative effort. In China, a relatively comprehensive package of environmental taxes coming into force in 2018 can be expected to be met with widespread political acceptance, as they will tap into widespread displeasure in the country due to the perceived difficulty for the Government in tackling land, water and air pollution (Reuters, 2016).

Pursuing environmental policy priorities can bring about easy wins and establish a policymaking culture of using market-based instruments for environmental policy. Later, more ambitious measures may be possible. For example, in Viet Nam the Environmental Protection Tax (EPT) is often hailed as an example of international best practice with reference to its structure, direction and the level of political commitment behind the measure (Green Fiscal Policy Network, 2013). The successful

implementation of the tax appears to have prompted policymakers to increase tax rates within the EPT – gasoline tax rates tripled in 2015. Given Viet Nam’s Green Growth Strategy, it is very likely that further steps will follow when perceived adequate.

5.4 Strategic timing

Policymakers can ease implementation by thinking carefully about the timing of environmental taxes. Announcing policies in advance of their implementation, or introducing a tax at a low rate and increasing it year-on-year can give business and individual consumers time to adjust to a new measure. Indeed, the “announcement effect” may generate environmental improvement even before such policies are implemented (OECD, 2006). Such approaches can also ease implementation, as stakeholders opposed to the measure have time to prepare before the tax comes into force (OECD, 2010a).

Introducing compensation schemes before taxes are enforced can also boost support and enhance credibility. Taking seasonal variations in energy use into account can lessen the impact of new tax measures and give consumers some time to adjust before a period of higher energy use. In the Islamic Republic of Iran, for example, fossil fuel subsidy reforms came into force in 2010 in December, when energy consumption is at its lowest, to minimize the social impacts and reduce resistance. Policymakers also introduced a highly visible and salient compensation scheme: bank accounts were set up and account details sent out to approximately 80 per cent of households prior to the reform. Thus, before fossil fuel subsidies were removed, families were already aware that they were entitled to compensation, and that it was in a bank account and waited for them (Hassanzadeh 2012).

5.5 Revenue use and political acceptance

The way revenue is spent has a crucial influence on the impact of environmental taxes: not only on macroeconomic indicators, such as GDP growth and employment, but also on the social impacts of a measure – e.g. by using revenues to benefit the most vulnerable – and its environmental effectiveness. The main advantages and disadvantages of possible uses of revenue are summarised in table 5.2.

Critical for the success and environmental effectiveness of environmental taxation is that measures are credible and predictable, and so spur behavioural change leading to the reduction of the consumption of environmentally harmful goods and products and investment decisions on the basis of long-term regulatory certainty. ETR revenues can help foster policy stability by ‘locking’ the instrument into the national fiscal policy

Table 5.2
Impacts of revenue use: advantages and disadvantages

Revenue use	Description	Advantages	Disadvantages	Example and recommendation
General budget	Revenue flows into general budget without earmarking	<p>Efficient and effective revenue allocation can yield additional economic benefits, hence minimizing the cost of the policy to the economy (IMF, 2012).</p> <p>Governments can prioritize their goals and spend tax money accordingly. This flexibility aids in dealing with unforeseen events or crises, when a sudden change of spending policy is necessary (Schlegelmilch and Joas, 2015).</p>	<p>If the revenue use is not predetermined, the benefits of environmental taxes remain abstract. Public support may erode if environmental taxation is associated with higher taxes, rather than increased expenditure (World Bank, 2005).</p> <p>May jeopardize environmental effectiveness if government policy and budget spending are inconsistent with environmental goals, such as investments in infrastructure.</p>	<p>Special consumption tax, Turkey</p> <p>Applicable to all countries, very useful for countries with limited fiscal space</p>
Coverage of administrative costs	Revenue can be used to strengthen administrative capacities, such as tax collection.	Government levels (subnational) or authorities can enforce revenue collection if they have the means to perform their duties.		<p>Differentiated power tariffs, China</p> <p>Useful in countries where administrative capacity is lacking</p>
Investment in the achievement of green economy transition and / or climate change mitigation	Parts or all of revenue are used for environmental purposes, such as access to low-cost credit for investment in energy efficiency.	Environmental effectiveness can be maximized as the cost of environmentally harmful technology increases, and the cost of new, clean technology decreases.	Earmarking can raise legal problems. The amount of revenue raised and amount of spending needed are unknown and a specific revenue source may provide too much or too little	Green Tax, Maldives

Table 5.2 (continued)

Revenue use	Description	Advantages	Disadvantages	Example and recommendation
			funding. Finance agencies usually oppose earmarking (see World Bank, 2005; IMF, 2012).	
Social compensation for vulnerable groups	Revenue can be used to: 1. Protect vulnerable populations from negative impacts 2. Provide alternative technologies and so boost green economy transition 3. For poverty reduction or health investments.	Social impacts of environmental taxes can be contained. Revenues can be used to achieve win-win outcomes and drive green economy transition.		Water charges, Sri Lanka Applicable in all countries – but essential in countries with a large proportion of poor people, or where populations are vulnerable to price increases

landscape. For instance, in Viet Nam in 2015 transport taxes were increased to meet budgetary requirements, making it more difficult for policymakers to reverse these changes.

Environmental tax revenue can strategically boost political acceptance if spending is allocated to widely recognized political priorities. Revenue can be politically earmarked, meaning that the Government explicitly states the use of the revenue, even though the revenue actually flows into the general budget and announced spending is made from that general budget. Although tight (or legal) earmarking of environmental tax revenue is prevalent in both developed and developing countries, the economic rationale for doing so is weak as it can excessively constrain the effective management of public finances (Jones, 2011). Tight earmarking is also undesirable because environmental tax revenue and necessary expenditures in a given area may not match up. Nonetheless, a political link between tax-raising and expenditure can still be clearly communicated to boost political acceptance and facilitate the implementation of reform measures. Political earmarking may also prevent revenue being diverted or spent on less desirable outcomes by binding Governments to a certain political commitment or goal. To maintain credibility, however, it is crucial that government spending takes place as announced and that reliable monitoring of expenditure ensures transparency.

Sound political earmarking can also reduce the cost of green economy transition. Investing a proportion of environmental tax revenue in green infrastructure (public transport, waste and sewage treatment), and renewable energy and energy efficiency technologies can increase the efficiency of environmental taxes and keep costs low (Ekins, 2009).

Distributing revenue (“dividend sharing”) between groups, such as vulnerable populations, energy-intensive industry or environmental expenditures/green infrastructure, can widen the scope of the beneficiaries of environmental taxation and thus enhance acceptance. It can also increase the appeal of such taxes to ministries and thus boost support within government for such measures (Cottrell et al., 2016). A degree of dependence on revenue can foster the stability of environmental taxes over time by ‘locking’ the instrument into the fiscal policy landscape. For instance, in Viet Nam transport taxes were increased in 2015 to meet budgetary requirements. In future, it may not prove easy for policymakers to reverse these changes and increase other taxes instead.

In some cases, environmental tax revenue can be channelled into a special fund, to ensure visibility and transparency of spending and ring-fence revenues for spending on particular policy priorities.¹²⁹ Such approaches are not the norm, however, as taxes are, by definition, unrequited payments which are typically centrally administered unlike charges and fees, which cover the cost of a providing a particular service and are typically administered in a fund or collected at the local level.

5.6 Competitiveness

Environmental taxes may affect the competitiveness of industry, either positively or negatively. Concerns regarding potential negative impacts on international competitiveness can pose one of the most significant obstacles to the implementation of environmental taxes, particularly energy taxes. This section will consider various design options for environmental tax instruments to minimize these affects and/or compensate the affected industries (Schlegelmilch, Eichel and Pegels, 2017, pp. 109-110).

When considering how to respond to any possible impacts on competitiveness, it is important to recall the rationale underlying environmental taxation and the ‘polluter pays’ principle. “Environmentally-related taxation is by definition intended to distort production decisions and have a disproportionate impact on polluters” (OECD, 2010a, p. 144). Thus, the objective of environmental taxes is to create a competitive disadvantage for those companies that pollute more

¹²⁹ For examples of such funds in practice, see Cottrell (2013).

and to create financial incentives for them to respond by reducing pollution by the most efficient means at their disposal.

Narrow tax bases are common across the Asia-Pacific region due to various tax exemptions and concessions, which reduce the potential for taxes to raise revenues (a serious concern from a fiscal point of view) and undermine the incentive effect of environmental taxes, thus reducing their environmental effectiveness. In view of this, policymakers should evaluate carefully whether the impact on international competitiveness is significant and develop compensation or protection measures accordingly. These impacts are dependent on a number of factors: the market power of a particular company or sector; whether they can remain competitive while passing on the increased costs attributable to environmental taxes to their customers; and whether they have to match a global price for the good or service they produce (COMETR, 2007, p. 17). In general, only energy-intensive industries should be covered by targeted, conditional and time-limited reduced tax rates or tax exemptions, and these compensatory measures should be subject to regular review. At the same time, competitiveness concerns linked to energy tax increases relate to a few energy-intensive sectors and are often exaggerated (Green Fiscal Commission, 2010). First, because fluctuations in energy prices on global markets tend to be far more significant than the impact of a tax on energy. Second, not all energy-intensive goods are highly traded internationally, so energy taxes on domestic goods will increase the cost to the consumer but will not affect international competitiveness. Third, an increase in energy prices will incentivize energy efficiency measures and innovation, which may result in stable or even falling energy costs for firms over time. Finally, environmental tax revenue can be used to mitigate negative impacts and support investment in reduced energy use or installation of appropriate technologies (Green Fiscal Commission, 2010).

Policymakers should also differentiate between the competitiveness of specific sectors, as well as national and international levels. Policy changes that make some firms worse off will also always make some firms better off, so that at the national level, negative impacts imposed on one firm or sector will tend to be moderated by positive impacts on others (OECD, 2006, p. 17). Only a few energy-intensive sectors produce goods that are highly traded internationally and only these companies should be considered for compensation or support measures. Thus, it may be necessary to implement some form of compensation for industry vulnerable to international competition to build the consensus necessary to implement environmental taxes. This is not always the case, however: the EPT in Viet Nam was implemented without granting any tax reductions for industry, as it set out to emulate positive examples of environmental taxation without industry exemptions.

There are several options to address competitiveness issues. Tax adjustment at the border to refund exports or impose a tax on imports can ensure equal treatment for domestic and international products while maintaining competitiveness. Importing countries use border adjustments to reflect the cost increase that would have been applied to a product had the exporting country imposed an energy tax or similar policy. However, border adjustments have rarely been implemented thus far, the major case being the Superfund case and the ozone depleting chemicals tax, both in the United States (see Hoerner, 1998; Pasfield and Paeffgen, 2013).

A second possible approach for policymakers is tax shifting, where revenue is recycled to business to reduce additional costs for companies while maintaining the incentive effect of the tax. This approach is common in industrialized countries but for developing economies with low tax-to-GDP ratios, it has less appeal, as the additional benefit of fiscal space is reduced as a result. Nonetheless, in developing countries revenue can be recycled to keep the overall tax burden on companies relatively stable, while incentives in favour of environmental improvement and energy efficiency are increased.

To keep the cost of protecting competitiveness as low as possible, where compensation is deemed necessary it should be sector-specific. To ensure that marginal cost and therefore the incentives for efficiency are not reduced, such compensation should be granted on the basis of the number of employees or the economic output, rather than consumption of energy or resources. In this way, efficient companies will gain, as they receive more compensation than they pay in tax, while inefficient companies will lose out. The sector itself will not be affected by any outflow of capital, but will retain capital for reinvestment, research and development. This approach maintains strong incentives for the entire economy, while ensuring the industrial basis in a country is maintained.

As a form of compensation, tax exemptions are the least desirable policy to protect industry from possible competitiveness impacts, as they create inefficiencies in pollution abatement and undermine the notion of the 'polluter pays' principle, representing an undesirable trade-off between environmental effectiveness and political feasibility (OECD, 2006). Tax exemptions or reduced tax rates lower the burden on companies vulnerable to international competition, but also reduce incentives to make environmental improvements. Revenue falls as a result and the administrative burden increases, while market distortions result from tax exemptions for specific sectors.

A further option is to link reduced environmental tax rates to energy management requirements such as energy efficiency improvements. Typically, this entails the negotiation of agreements with industry to

implement energy management to safeguard environmental action and in return, industries receive an exemption from environmental taxes for competitiveness reasons. Sometimes referred to as voluntary agreements, that term does not capture the true nature of most negotiated agreements since they usually result from the threat of binding requirements (Héritier and Lehmkuhl, 2008).

One example of this has been the carbon dioxide tax in Switzerland, which included an agreement with industry to reduce emissions in line with fixed interim targets. If these targets were not met, it was agreed that the tax rate would be increased. Thus, after emissions had not decreased sufficiently in 2014, the Government increased the carbon dioxide levy by almost 25 per cent in 2016 (BAFU, 2015). In this case, the agreement merely postponed implementation of effective instruments and delayed effective emission reductions and green investments (Schlegelmilch, Eichel and Pegels, 2017). In the case of the United Kingdom Climate Change Levy, climate change agreements with industry were met well ahead of schedule – possibly indicating that the agreements were not sufficiently ambitious. However, research has also indicated that the agreements generated additional emissions savings over and above those expected to result from the Climate Change Levy alone, due to increased awareness of energy efficiency and GHG emissions resulting from the Agreements (Ekins and Etheridge, 2006).

When negotiated agreements are not considered sufficiently binding, environmental tax reductions or exemptions can also be linked to mandatory requirements, such as installing energy management systems, to support the identification and implementation of profitable energy saving potentials. Requirements of this nature can be considered a no-regret option, because, apart from administrative costs, they do not put a real burden on companies and indeed support companies in establishing a data information system on energy flows and GHG emissions, increasing transparency. On this basis, it is much easier to identify concrete investment options for improving energy efficiency and the use of renewable energies.

Awareness-raising of the positive impacts of environmental taxes on specific companies and sectors can reduce competitiveness concerns on the part of business. If an assessment of the impact of environmental taxation on competitiveness is carried out, it will reveal sectors set to benefit, as well as sectors that will be negatively affected. Policymakers can use these results to identify sectors likely to be broadly supportive of reform and potentially willing to support reform in stakeholder consultations and perhaps also in the media. In Germany, for example, press conferences with businesses that benefit from environmental taxation have had a positive influence on the policy debate and have reduced resistance to reform measures.

Finally, environmental taxation is a dynamic policy instrument. As sectors adapt, industries that were negatively affected initially may become winners as time progresses. Policymakers should thus give industry time to adjust and offer businesses a transition pathway to make such changes. Because the impacts of environmental taxes change over time, all measures to mitigate competitiveness impacts must be targeted, time-limited, and subject to regular review. This will prevent wasted expenditure once companies have adapted to the new conditions. Otherwise, there is a strong risk that benefits become locked-in and that path-dependencies develop which are hard to reverse.

5.7 Social protection schemes

Concerns about negative social impacts represent an important obstacle to the implementation of environmental taxation. In Viet Nam, for example, this has acted as a barrier to the implementation of some environmental taxes, and has influenced tax rate-setting as well, as described in box 5.2. However, as long as environmental taxes are accompanied by a range of well-designed and targeted compensation measures for poor and vulnerable people, the negative impacts can at least be reduced, if not avoided.

Owing to differences between contexts, there may no single best way to accurately target poor people and ensure that compensation measures are effective and efficient. The best mechanism will reflect the country context and existing redistribution mechanisms, the quality of data on household income, and so on. For cash transfers to be effective, institutional capacity and procedural mechanisms must be in place for accurate targeting and distribution of funds (Raworth et al., 2014).

If policymakers are not certain whether they can target vulnerable households effectively, they should aim for more rather than less coverage. In the Islamic Republic of Iran, the Government compensated 80 per cent of all households in 2010 when fossil fuel subsidies were reformed, because there were problems in identifying the most vulnerable (ESCAP 2012). This measure lifted virtually the entire population out of poverty and fostered widespread political acceptance for subsidy reform at the time, although it proved unsustainable in the long-term (Guillaume et al., 2011).¹³⁰

¹³⁰ Sanctions on the Islamic Republic of Iran after the subsidies were phased out had a severe impact on the economy and the positive impact of subsidy reform was largely lost.

Box 5.2

The Environmental Protection Tax in Viet Nam

Viet Nam's Environmental Protection Tax (EPT) was included in the seventh legislative programme of the National Assembly (2007-2011) and the EPT Law 57/2010/QH12 was implemented in 2012 (Green Fiscal Policy Network, 2013). A key driver behind the implementation of the tax was the Prime Minister, Nguyen Tan Dung, who championed the tax domestically and enacted the measure in a relatively short timeframe.

Before the introduction of EPT, Viet Nam already had a range of taxes and levies with environmental relevance, including natural resource taxes and fees on oil refining, coal, land use, waste water discharge, forests and mineral extraction. In general, however, these taxes lacked a coherent legal basis and environmental benefits arose as unintentional side effects (Sieber, 2013). While these levies do yield state revenue they have failed in the past to influence the behaviour of economic actors to a significant extent, due to low rates, too many exemptions and poor monitoring and enforcement (Mehling, 2008).

A more comprehensive raft of environmental taxes was introduced with the EPT, which included a wide range of tax bases and for each tax base, a range of tax rates. In the first instance, the lower end of each tax band was implemented, giving policymakers flexibility to increase the tax in response to changing circumstances. The National Assembly Standing Committee, the body responsible for setting tax rates and subsequently agreeing changes, can raise the tax without a repeated legislative process.

Environmental effectiveness

Econometric modelling prior to the introduction of EPT suggested that the measures proposed could potentially curb GHG emissions by between 3 million and 9 million metric tons of carbon dioxide in the year 2012, depending on the tax rates applied (Green Fiscal Policy Network, 2013). However, computer-generated equilibrium (CGE) modelling in 2014 of the impact of EPT compared to a business-as-usual scenario suggests that carbon dioxide emissions were curbed by about 2 million metric tons in 2012 and 2013, or a decrease of about 1.7 per cent on business as usual (Huong, 2014). In part, this discrepancy can be explained by the tax increases on energy products in EPT being introduced at the same time as falling oil prices and the abolition of an energy charge worth the same amount (Sieber, 2013).

Impacts on growth and investment

Modelling prior to the implementation of EPT suggested there would be an increase in production prices as a result of energy price increases, which could in turn lead to reduced competitiveness of exports and so negatively impact GDP growth (Willenboeckel, 2010). This finding was corroborated by CGE modelling conducted in 2014, which indicated a small drop in investment in comparison to business-as-usual as a result of the EPT of about -0.7 per cent in 2012 and 2013 (Huong, 2014). This was presumably attributable to higher production costs and higher energy prices, resulting in lower returns on investment.

The CGE modelling conducted in 2014 also indicated a small drop in household consumption of just under -0.6 per cent in comparison to business-as-usual as a result of the EPT in 2012 and 2013 (Huong, 2014). This was presumably due to higher prices of fossil fuels, which reduced

household real income and shifted demand from coal and other refined fuels to other goods (Huong, 2014). The poverty rate in Viet Nam declined from 11.1 per cent to 9.8 per cent between 2012 and 2013, representing a deviation of -0.2 per cent from the business-as-usual scenario in 2012 and -0.1 per cent from that in 2013. In the same period, income distribution improved slightly (Huong, 2014).

Fiscal impacts

Environmental taxes make up a considerable portion of total tax revenue in Viet Nam. The EPT generates 2-3 per cent of the total government budget and increased government revenue by 1.6 per cent in 2012 and 1.2 per cent in 2013 (Huong, 2014). Revenues from the EPT doubled in 2015 as a result of rate increases to VND 3,000 (USD 0.13) per litre of gasoline and jet fuel, VND 1,500 (USD 0.07) per litre for diesel and VND 900 (USD 0.04) per litre of kerosene, which will result in increased government revenue in the future. However, these adjustments took place in parallel to import tax rate reductions on fuel products imported from members of the Association of Southeast Asian Nations – accounting for 64 per cent of total fuel imports – in accordance with trade agreements, so the impact on domestic fuel prices was minimal.

Strategic concerns and political economy

Energy taxes were tagged on to existing collection systems, ensuring administrative feasibility and keeping costs to a minimum, as is also generally the case for energy taxes in OECD countries. Revenue was allocated to the general budget. To minimize opposition when the EPT was first implemented, the gasoline surcharge regulation was abolished at the same time. This prevented an overall increase in transport fuel prices and protected vulnerable households (and businesses) from the impact of energy price increases. However, while such measures facilitated the initial implementation of EPT, trade-offs are certainly evident between environmental effectiveness and revenue-raising potential on the one hand and political feasibility on the other. Further increases in the tax rate will be necessary to ensure that EPT is environmentally effective. In Viet Nam, a broad review and reform of the tax structure is in the pipeline, which may enable policymakers to integrate environmental tax elements into the new policies.

Ideally, compensation measures should not undermine the incentive effect of environmental taxation – the increased price of polluting – but should run in parallel. However, in practice the risk of negative social impacts may be too great to allow for such an approach. For example, lifeline tariffs on electricity or the provision of a basic amount of electricity at low or no cost can undermine incentives for energy efficiency. Nonetheless, if there is a risk that indirect compensation schemes will be ineffective, it may be better to implement a lifeline tariff to ensure that the poorest households can access electricity (see box 5.3).

Box 5.3**Introduction of progressive electricity tariffs in Maldives and China**

In a 2009 economic reform, the universal electricity subsidies in the Maldives were replaced by a targeted system. This measure responded to the large fiscal deficit of the Maldives, one of the highest in the world (IMF, 2009). Replacing the old subsidy with a progressive Block Tariff structure removed benefits for the rich while minimizing the impact on poor people (Cottrell et al., 2016). The tariff rates of the state-owned electric company STELCO are set at Rf 1.5 (USD 0.10) per kWh for 0-100 kWh per month for the lowest rate, and peak at Rf 4.25 (USD 0.27) per kWh if the monthly consumption exceeds 600 kWh (STELCO, 2016).

China introduced a demand-side management measure to curb excessive electricity consumption through a tiered electricity pricing reform in 2010. The reform set specific (and increasing) prices per each block (quantity) of consumed electricity per household and meter. Under this new system, tier one keeps the old quota price (applicable to 89 per cent of households), tier two electricity prices are slightly higher and charged for kWhs exceeding the amount of basic use, which is differentiated across regions, and tier three sets a much higher tariff for the amount of electricity referred to as luxury use (Zhang, 2014). The new pricing system was implemented in response to growing energy security and environmental concerns, to improve efficiency and lower pollution while maintaining affordable consumer prices. Prior to its introduction, households were charged a low flat rate, regardless of individual consumption. The flat rate did not cover cost of supply and was heavily cross-subsidized by industry and commercial sectors. The flat rate was inefficient in promoting energy savings and it was regressive as higher income groups with higher electricity consumption disproportionately benefited from the low rate.

A range of policy options which can better integrate social and environmental policymaking have been proposed by the International Institute for Environment and Development (Raworth et al., 2014):

- Safeguarding policies which compensate for the social cost of green policies, such as cash transfers, social protection, redundancy payments, microfinance access, food stamps or subsidies, and enterprise and skills training.
- Co-benefits policies which are designed to exploit win-win opportunities to drive the green transition, such as conditional cash transfers/vouchers, access to sustainable and affordable energy (such as stoves that use liquified petroleum gas to replace kerosene), water, sanitation, transport and housing, sustainable produce certification, pro-poor payments for ecosystem services, education (free schooling), food-for-work programmes, free or subsidised health care.

- Social transformation policies which include redistributing control over assets, labour rights reform, tackling women's reproductive care burden, deepening participation, and ensuring procedural justice.

The latter two strategies are preferable because they are most likely to bring about lasting gains, as they are more transformative approaches which not only compensate directly for negative equity impacts, but also help drive the green economy transition. Revenue from environmental taxation can be used to implement all three approaches, although thus far, safeguarding and co-benefits policies have been most common in developing countries.

When developing responses to equity impacts, policymakers should bear in mind that impacts of environmental taxes may be different over time, for example, resulting in job losses before new jobs are created, or vice versa. Similarly, taxpayers respond to environmental taxes in different ways as time passes – in the short term, behavioural change is to be expected and, later on, changing patterns of investment. If data on household income is available, relatively accurate targeting is possible and developing countries can learn from each other's experiences – such as the compensation mechanisms implemented in Indonesia described in box 5.1.

The tendency for developing countries to introduce environmental taxes at rather low rates might be helpful for policymakers responding to changing equity impacts over time. In the short term, policymakers can use the early stages of environmental taxation to support households to adjust to future price increases and put safeguarding, co-benefit or social transformation policies in place, so that when higher tax rates take effect, the most vulnerable will already be prepared for the changes and protected from their impacts.

5.8 Environmental taxation as a means of addressing tax evasion

Countries with less effective tax collection systems and a large informal economy can benefit substantially from environmental taxation. Environmental taxes, if designed with these problems in mind, can be among the most difficult taxes to evade (Fay et al., 2015). Many environmental tax bases, such as those on energy consumption, water, agricultural inputs, carbon or waste are fairly immobile – in contrast to capital and to a lesser extent, income – making tax evasion less likely (Cottrell et al., 2016). This is particularly important in contrast to taxation of capital, which can easily be shifted into tax havens. At the same time, some environmental taxes are relatively easy to measure, monitor and collect at the supplier level, such as carbon taxes, taxes on natural resources and

royalties. The price of some tax bases (energy and carbon) are traded on open marketplaces and the prices are thus relatively transparent (Liu, 2013).

Carbon-energy taxes can particularly benefit those economies with high or rapidly increasing GHG emissions, high rates of tax evasion and large shadow economies, such as India, China and indeed many of the emerging and developing economies in the Asia-Pacific region. If at least a portion of carbon-energy tax revenue is used to reduce conventional taxes, or if revenue is recycled to individuals (through improved welfare systems) or to businesses paying conventional taxes, then this may reduce incentives for firms and individuals to join or stay in the informal sector, as the gap between the tax burden in the formal and informal sector is reduced (Fay et al., 2015). While carbon-energy taxes apply equally to all energy users, whether in the formal or informal sector, conventional taxes on wages, sales and profits apply only to the formal sector. Indeed, it might be that in some cases recycling a portion of the tax revenue can provide economic benefits for businesses that enter the formal economy, or for individuals who pay income taxes and social security payments but as a result have better access to welfare, healthcare or education.

In addition, as carbon-energy taxes are difficult to evade, some authors have contended that carbon-energy taxes can boost total welfare and capture resources previously lost to tax evasion. A 2013 study has estimated that in countries with higher tax evasion, such as China and India, “the benefits of low evasion carbon taxes can be so significant that [carbon taxes] should be considered even with no policy interest in improved environmental quality or reduced emissions” because the measures more than pay for themselves through improvements in the efficiency of the tax system (Liu, 2013, p. 18). It has also been suggested that in developing countries, early adoption of control measures and enforcement can prevent a culture of non-compliance (Pereira et al., 2013).

6. Recommendations for tax design in Asia and the Pacific

In many countries, environmental taxes are often implemented in a way that deviates from the theoretical ideal. The tax base, instead of being broad and comprehensive, may be rather narrow, exemptions are many, and tax rates are inconsistent and too low to trigger the desired changes. In many cases, these measures have been environmentally effective nevertheless, but they could have been far more effective if more of such ideal design elements had been applied.

The following subsections discuss tax design options available to policymakers and possible considerations that may influence their decision-making when designing environmental tax instruments. Experience from other countries and lessons learned are included throughout.

6.1 Defining policy objectives

Environmental taxes can internalize externalities by either internalizing all environmental costs within the price – a so-called Pigouvian tax, named after economist Arthur Pigou, who developed the rationale for this approach – or by setting tax rates at a level commensurate to achieving a particular environmental objective (Pigou 1932; Baumol and Oates 1988). One of these objectives should be the starting point for any discussion of implementing environmental tax (Goulder and Parry, 2008; Ministry of Finance, Norway, 2014). When designing taxes, policymakers must identify possible synergies and trade-offs between environmental, fiscal and social objectives. Additional measures may be required to respond to trade-offs or synergies within a broader policy package and may also demand clarity on the primary objective of an environmental tax measure.

While the best option for policymakers is to implement environmental taxes with win-win outcomes, i.e. taxes that have a positive environmental impact while raising revenues, there are often tensions between fiscal and environmental objectives. If the primary objective of an environmental tax measure is to rapidly reduce environmental damage within a relatively short timeframe or phase out a particular kind of polluting behaviour, it will likely conflict with a defined fiscal policy objective of generating stable revenue (Schlegelmilch and Joas, 2015). Thus, policymakers must have clear objectives when designing environmental taxes and decide whether to prioritize short-term environmental effectiveness or raising revenue while bringing about more gradual change. Many measures, such as plastic bag taxes, do not raise significant or stable revenue because elasticity of demand is high, meaning that taxpayers quickly respond to a price rise and change their behaviour (cf. the case of taxes on lead in fuel in Thailand in box 5.5). Other measures, such as energy or transport fuel taxes, can raise significant revenue while impacting on environmentally damaging behaviour. In such cases, well-planned design of the tax instrument over a number of years can ensure that revenue increases substantially or at least remains stable over time – for example, by introducing a gradual increase in tax rates (a tax escalator) to compensate for gradually falling consumption as economic actors respond to the price signal created by the tax. This is particularly important in developing countries, where government budgets are limited and tend to be vulnerable to price shocks.

To maximize environmental effectiveness, objectives should be clearly defined and incentives effectively targeted to the environmental problem the tax seeks to influence (Mirlees et al., 2010). In China, for example, differentiated grid prices for desulfurized electricity had a clearly defined objective of driving the desulfurization of coal generation (see Section 5.7). The initiative, alongside targets in 5-year plans, sent a clear signal to power producers (see Section 6.3). The objective was clearly reflected by the RMB 0.015/kWh premium the Government paid for desulfurized electricity, equivalent to the average estimated cost of operating the technology. As a result of this policy, China cut its sulfur dioxide emissions by 13.14 per cent from 2005 to the end of 2009, and met the target of a 10 per cent cut in emissions a year ahead of schedule (Zhang, 2014).

In both the Islamic Republic of Iran and Indonesia, high awareness of the unsustainable nature of spending on fossil fuel subsidies paved the way for reform. Often, policymakers may find that tax measures to reduce local pollution tend to be well received, as awareness of local impacts tends to be high, while it may be more challenging to garner support for measures addressing abstract global concerns, such as climate change. Where the environmental issue is more abstract, linking policy objectives and the use of revenue to widely recognised environmental or social policy priorities can help boost support for reform. By communicating their intention to link up environmental and social issues, policymakers can thus enhance the feasibility of implementing environmental taxation.

6.2 Instrument choice

This section discusses the realities of instrument choice in the context of developing countries along the following four criteria for instrument choice: environmental impact; economic efficiency and cost-effectiveness; distributional impacts; and political and administrative feasibility (Goulder and Parry, 2008).

Environmental impacts

In terms of environmental impact, environmental taxation is particularly relevant to problems where wide-ranging changes in behaviour across diffuse producers and consumers are necessary. In many such cases, the cost of direct regulation would simply be prohibitive (Mirlees et al., 2010). Typically, environmental taxes will create a dynamic incentive for environmental improvement. Responses are not always predictable, however, and if elasticity of demand is lower than predicted, specifically if people do not respond to an increase in price by changing their behaviour, environmental effectiveness may be compromised. Policymakers can

respond to this by incorporating an automatic escalator in the tax, or indexing rates to inflation or GDP growth (for more details see Section 6.4).

If the design of environmental policies includes the way polluters respond to certain cues in the environment, the environmental effectiveness of a particular measure tends to increase. Thus the introduction of labelling of energy-efficient equipment – including clear calculations of potential savings per year – alongside a tax can help to overcome the tendency of individuals to undervalue future cost savings and thus support energy-related behaviour changes. Labelling can also help rationalize concerns that new appliances will not be as effective as existing appliances, thus responding to the endowment effect (attachment to possessions) (Pollitt and Shaorshadze, 2011).

Similarly, taxes themselves seem to be more environmentally effective if their impact is observable. Metering to make consumers more aware of their consumption can thus maximise the incentive effect of environmental taxation. There may be considerable potential in Asia and the Pacific to use systems that enhance the visibility of resource consumption in a policy package alongside fees, charges or taxation to enhance efficiency. The city of New Delhi, for example, has a system of monitoring water consumption using a mobile phone application, used to enhance awareness of wasteful consumption alongside increased water rates (Hindustan Times, 2015).

Economic efficiency and cost-effectiveness

In theory, market based instruments, such as environmental taxation, are the most economically efficient and cost-effective: They can achieve environmental objectives at the lowest cost, or achieve the best environmental outcomes possible with the resources available. Environmental taxes can help reduce distortions in the economy and thus bring about economic efficiencies and increased welfare. Administrative costs tend to be very low, as measures can often be linked to existing tax collection infrastructure, although costs may increase if more complex compensation mechanisms or exemptions are introduced.¹³¹

¹³¹ Administrative costs for Sweden's carbon tax have been estimated to amount to just 0.1 per cent of revenues, while Germany's 'Ecotax' cost just 0.13 per cent of total tax revenue (Hammar and Åkerfeldt, 2011; OECD, 2006). Administration of pesticide taxes in Norway cost 1 per cent of tax revenues, and the Irish plastic bag tax cost 3 per cent, while the IMF has estimated that on average, approximately 5 per cent of carbon tax revenues may reasonably be required to administer the tax (Vatn, Kvakkestad and Rorstad, 2002; Convery, McDonnell and Ferreira, 2007; Parry et al., 2012). Introducing complex or targeted compensation measures may lead to a rise in overall administrative costs.

Distributional impacts

Concerns about equity impacts often prevent environmental taxes from being implemented in both developing and industrialised countries. This problem is particularly acute in developing countries, many of which have large inequalities and there is a clear risk that a policy instrument that deliberately brings about an increase in prices of goods and services, can have a negative impact on the most vulnerable. On the other hand, it is important that policymakers also take the positive impact of (physical) environmental improvements on social equity into account when evaluating the distributional impact of environmental taxation. As a general rule, poor people stand to gain disproportionately from environmental improvements, even those resulting from carbon taxes, as they tend to live in the most polluted areas and benefit most from reduced local air pollution (sulfur dioxide, particulates, nitrogen oxides) and corresponding improvements to human respiratory health (Cottrell et al., 2016).

In some countries social protection measures are relatively ineffective and compensation schemes lack coverage along multiple dimensions of inequality, such as gender, age, race, ethnicity and disability. In many low-income and lower-middle-income countries, coverage of such schemes does not exceed 50 per cent. Many transfers are inequitable and poorly targeted, benefitting the wealthy more than the poor. If state resources are limited and the middle classes do not have access to private means, they tend to be better and more able to demand and obtain support from Governments at the expense of poor households (World Bank, 2016b).

These issues and problems have an impact on the kind of environmental taxes Governments can introduce in developing countries in the Asia-Pacific region. Focusing on tax bases that do not directly affect poor people, such as taxes on air ticket, import duties on vehicles, or vehicle registration tax, may be one solution to this problem. Using revenues to improve coverage and targeting of social welfare schemes is another. In view of high rates of inequality in developing countries, identifying which environmental taxes might have the most progressive impacts may be helpful as a means of improving the progressivity of the tax system.

Political and administrative feasibility

The ability to tax is constrained by the administrative capacity of the state and here there is an enormous difference between developed and developing countries (Besley and Persson, 2014). While high-income economies are able to generate tax revenue in the range of 30-40 per cent of GDP, this number usually amounts to just 10-20 per cent in low-income

economies (see Fuest et al., 2011; Besley and Persson, 2014). Over time, high-income countries have continuously invested in their fiscal capacities. Low-income countries, however, tend to rely much more on taxation of consumption than income, as this requires less fiscal capacity (Besley and Persson, 2013). Environmental taxation is most administratively feasible in countries with a stable fiscal governance framework and an established tax system capable of levying, collecting and redistributing revenue, and transparent, competent and accountable public financial management. However, where this is not already in place, environmental taxes and their revenues can contribute to processes to improve fiscal governance (GTZ, 2008). If administrative capacity is lacking, enforcement of even relatively simple environmental taxes may be lax or indeed non-existent (Speck and Datta, 2007). Policymakers should thus choose a path where administrative capacity to enforce environmental taxes exists, or can be put in place relatively easily.

In practice, there is usually a trade-off between economic efficiency and administrative and political feasibility, and compromises have to be made (IMF, 2012). To reduce administrative costs, policymakers should consider whether and to what extent environmental taxes can be linked to existing and functioning tax collection mechanisms. Aside from keeping costs to a minimum, this approach has a number of additional advantages. First, well-functioning tax collection mechanisms are not easily evaded and provide an excellent basis to raise revenue, and are a good means to combat corruption and weak governance (Fay et al., 2015). Furthermore, linking existing collection mechanisms and taxes to new environmental objectives may help to overcome political opposition and resistance from the administration. Finally, as functioning tax collection mechanisms are in many countries most established in the energy and transport sectors, which offer policymakers multiple gains in terms of local air quality and climate change mitigation, using existing administrative capacity in these sectors is a good starting point for environmental taxation, particularly in countries with weaker administrative capacities.

Designing measures which are too complex and demanding for administrative systems will result in poor rates of enforcement (Mirlees et al., 2010). Bearing this in mind, policymakers may wish to focus initially on introducing large and relatively simple environmental tax incentives, which raise sufficient revenue to fund their administration and enforcement while minimizing administrative complexity. Indirect taxes – taxes such as electricity taxes, which are collected from a limited number of energy suppliers rather than a large number of energy consumers – may minimize administrative costs and be more feasible to implement in the developing country context. Policymakers can go on to consider more complex instruments later on. Section 6.3 discusses the experience of China when

implementing emissions trading and emphasises the importance of carefully considering the administrative feasibility of market-based instruments.

A related question is whether environmental taxes should be levied, administered and redistributed by the central Government or a subnational government. Many countries, including developing countries, have concentrated taxing authority and tax administration with the central Government, which has the important advantage of collecting taxes where sound capacity exists to do so (Mikesell, 2003). On the other hand, the dependency of local governments on central Government for revenue can be reduced where revenue is raised locally and where local authorities can keep the total or a portion of the revenue for its own budget (GTZ, 2008). Local administration has the advantage of familiarity with local business practices, but often lacks administrative capacity to effectively collect the taxes. However, since taxes need not automatically be administered by the level of government that levies them, the problem of inadequate subnational capacity can be overcome. Central administration has the advantages of scale and technical expertise and may have more leverage in disputes with powerful taxpayers. The actual administrative pattern should balance these advantages within existing national circumstances (Mikesell, 2003).

Attention should be paid to the right incentives for local governments in cases where central taxes or pricing schemes need to be administered by subnational levels. If revenues collected are shifted completely to the central level, there may not be enough interest on the subnational level to ensure effective tax collection. For example, in 2006, China introduced differentiated power tariffs for inefficient and highly polluting industries to limit the expansion of offending industries. But local governments were violating these provisions, even offering preferential power tariffs to struggling industries, since the additional revenue collected had to be transferred completely to the central Government. Recognizing the problem, the policy was adjusted to allow local authorities to retain revenue collected, providing stronger incentives for provincial authorities to enforce the policy (Zhang, 2014).

The decision whether to raise environmental taxes at the subnational/local level or central level not only depends on administrative capacities, but also on the nature of the environmental tax raised. Some environmental taxes are best levied at central level, whereas others are suitable to be applied at the local level. One important factor to decide at which level the tax should be levied is whether the impact of the taxed harm is local or widespread, and how easily taxes can be avoided if applied only locally. For example, transport fuels should be taxed at the central

level to hinder tax evasion, whereas the authority to levy and spending of local congestion charges should be at the subnational level.

Further considerations

The political system and the nature of the economy in the country in question also feed in to the question of instrument choice. In the Asia-Pacific region, electricity prices are often regulated, meaning that changes to the price of inputs into power generation will not as a matter of course be passed through to business or private consumers in the form of higher electricity prices. In such cases, a downstream tax on electricity consumption can ensure that incentive effects reach the consumer. Policymakers in economies with relatively liberalized electricity markets can assume that more targeted upstream taxes on energy inputs to power generation will primarily address power generators and thus will encourage use of cleaner fuel inputs. In such cases, upstream measures are preferable because they differentiate between fuels and thus encourage fuel switching.¹³² In addition, such measures are often amplified because costs from higher taxation may also be passed on to consumers in the form of increased electricity prices.

6.3 Tax base, coverage and scope

An important consideration for an effective environmental tax is the choice of tax base and the subject of a tax. Taxes can be levied upstream at the start of the value chain, midstream at the point of manufacturing or trading, or downstream at the point of consumption. In practice, policymakers must also consider which tax bases are suitable to their country context. What administrative capacities are available? Which tax bases are easily measurable? Which taxes already exist and function effectively to which an environmental tax could be attached or integrated, or which could be changed so that more positive environmental impacts are triggered? Box 5.4 provides a practical illustration of those considerations from the emission trading scheme in China.

In economic theory, to maximize environmental effectiveness, environmental taxes should target the pollutant or polluting behaviour as accurately as possible and act on a broad tax base with as few exemptions as possible (OECD, 2010a). In reality, however, policymakers will have to weigh the pros and cons of various models, taking theoretical and practical considerations into account. Practice has shown that the feasibility of environmental taxation increases when there is a workable tax base, a smart

¹³² Although it should be noted that upstream taxes on energy inputs raise other questions, such as how to deal with electricity imports not affected by the tax.

Box 5.4

Lessons learned from emission trading in China

Seven regional pilot Emission Trading Schemes (ETS) for carbon dioxide were launched in China in 2013, which merged to create a national ETS, with unified rules in 2017. The national ETS will cover power generation, petrochemicals, chemicals, building materials, steel, non-ferrous metals, paper and aviation. The regional pilot schemes gave stakeholders (compliance companies, government agencies, financial institutions, auditors and project developers) important experience in the functioning of the ETS, especially with regard to allocation, monitoring & verification, and trading of allowances.

After the past years of experience from the pilots and from ETS worldwide, the following key issues turned out to be crucial for smooth implementation and operation of the carbon market:

- Market transparency and liquidity in the market. Without comprehensive data and information in the market, it is difficult for ETS participants to take informed decisions about whether to engage in emissions trading and to build effective carbon market strategies.
- Compliance companies' capacity building.
- Conservative allocation of allowances and robust monitoring & verification to ensure emissions go down.

Although carbon taxation was included in the five-year plan 2011-2015, China has decided to pursue a nationwide ETS, for several reasons. The emissions trading approach appeals to China as it has considerable experience of selling carbon offsets on international markets. Both the pilots and subsequently the national ETS could build on an existing institutional and regulatory framework. Finally, the Government presumably expects that it will be easier to link carbon dioxide trading to the European Union emissions trading system (China Carbon Forum, 2016).

point of collection along the supply chain, and a focus on the most important taxpayers. Examples of each are provided below:

- Tax base: The tax base influences the complexity of a tax. Some tax bases do not require measurement of emissions, but can be estimated on inputs, such as taxes on transport fuels (there is a fixed relationship between certain fuels and their carbon content and thus carbon emissions), while other taxes are less simple, such as taxes on water pollution. Carbon taxes and emissions trading systems often focus on energy-related carbon dioxide for administrative ease, although it would be ideal to include all GHG from all sources (IMF, 2012). Taxing only carbon dioxide reduces the complexity and the number of taxpayers although it still captures a large portion of GHG emissions.
- Point of collection: Upstream taxation usually implies fewer suppliers and hence fewer taxpayers, which is often essential to

ensure easy enforcement and collection. The Clean Environment Cess introduced in India in 2010 exemplifies the advantages of this approach. The cess is an upstream tax levied on coal, lignite and peat. All producers of coal, lignite and peat are registered with the central excise authority. Electronic payments are made monthly on a self-assessment basis. Adjustments are made where producers overpay or underpay. Thus, administrative effort is minimized and the Ministry of Finance has stated that the cess is not associated with any additional costs above business as usual.

- Focus on most relevant taxpayers: A focus on large taxpayers can maximize revenue with sufficient coverage at lower administrative costs (Pereira et al., 2013). Particularly in developing countries with large and complex informal economies, targeting households and small businesses implies a significantly higher administrative effort for tax collection and monitoring alongside low revenue potential. It may be advisable, certainly in the early stages of implementation, to focus on a large, easy-to-target tax base and to revisit exemptions later.

6.4 Quantity-based taxation, escalators and indexation

Environmental taxes are divided into *ad quantum* and *ad valorem* taxes. Most environmental taxes are *ad quantum*, meaning the tax base is the quantity of pollutants emitted, rather than their market price. *Ad quantum* taxes may lose value over time due to inflation. If an environmental tax is effective, then behavioural responses and new investment patterns will also result in shrinking revenue, unless tax rates are periodically adjusted to keep revenue stable. In Thailand, environmental taxes had a clear impact on consumer behaviour without significantly increasing tax revenue (box 5.5).

The adjustment can either be done regularly through a legally binding escalator that specifies year-on-year or biannual increases to the tax rate, or as a discretionary decision whenever an appropriate political opportunity appears. Ideally, a tax escalator should include step-wise increases of the tax rate year by year, indexed to inflation (or GDP growth) to increase revenue or stabilize it relative to a diminishing tax base and positive environmental effects (Fay et al., 2015). In developing countries, where environmental tax revenue is generally used to raise additional revenue to increase public financial resources, it may be even more important to implement mechanisms to keep revenue relatively stable. Including a tax escalator and indexation to GDP growth or inflation has many advantages (table 5.3). Turkey provides a good example of indexation of tax rates through the Special Consumption Tax (box 5.6).

Box 5.5

Experiences in Thailand with environmental tax reductions

Climate change poses an 'extreme risk' for Thailand. Severe flooding in 2011 reduced growth to just 0.1 per cent in that year (Macroeconomic Strategy and Planning Office, 2012) and a 2015 drought led to substantial GDP losses of 0.52 per cent. As a result, policymakers are acutely aware of the need to invest in adaptation and to stabilise and subsequently reduce GHG emissions. Thailand submitted a relatively ambitious intended nationally determined contribution in 2015, committing to GHG reductions of 20 per cent on business-as-usual from 2021-2030 (projection year 2005). Several 5-year plans, including the 2015 Transport Master Plan, directly refer to economic instruments and environmental taxation. Over the past 30 years, Thailand has implemented several environmental fiscal reform measures.

Tax design – price differentials to bring about behavioural change

The Thai approach is interesting for a number of reasons: Not least, because several environmental taxes introduced in Thailand have not resulted in tax increases. Changing tax regimes for vehicles – cars and motorcycles – as well as a carbon tax on transport fuels drawn up by the Fiscal Policy Office – have all tended to restructure existing tax systems without significantly increasing prices.

The taxes on leaded/unleaded petrol in Thailand in the 1990s were environmentally effective in a very short timeframe. In 1991, a tax differentiation was introduced to reduce air pollution from lead, particularly in the capital city, Bangkok. The tax was one element in a package of measures to increase awareness of the damage caused by leaded petrol, liberalise fuel markets and support oil companies to produce unleaded fuels. Consumers responded rapidly to the new price differential between unleaded petrol (THB (Thai baht) 14/litre) and leaded petrol (THB 15/litre) and within 30 days, the share of unleaded fuel had already risen to 30 per cent (Institute for Global Environmental Strategies, 2004).

Within two years of a price differential being introduced, lead concentrations in key monitoring stations had typically dropped by about 70 per cent in comparison with 1990 levels (Israngkura, 2014). By 1995, leaded petrol had been phased out altogether. The Pollution Control Department (PCD) in Thailand has estimated that health benefits of the measure were worth THB 7 billion (Institute for Global Environmental Strategies, 2004), giving a cost-benefit ratio of 32:1 for the policy.¹³³

Fiscal impacts

Tax differentiation between leaded and unleaded petrol did not result in a significant change in tax revenue because it quickly brought about changes in consumer behaviour. The design of the tax – introducing a lower tax rate for unleaded petrol rather than a higher tax rate for leaded fuel – resulted in foregone revenue for the Thai Government.

In Thailand as in Viet Nam, environmental taxes have been implemented within the existing excise tax structure and collection mechanisms, minimising administrative costs. Revenue raised by price differentiations has flowed into the general budget. In India, too, a similar model has been pursued for unleaded and leaded fuels (World Bank, 1998). Such approaches reduce the potential of environmental tax measures to raise revenue while being environmentally effective. They also magnify the risk of quantity-based taxation losing real value over time.

¹³³ The PCD calculations include the cost of converting refineries to produce unleaded fuels.

Table 5.3
The benefits and risks of escalators and indexation

Benefits	Risks
<ul style="list-style-type: none"> • Environmental effectiveness: Gradual, predictable increases ensure that the price signal remains stable or increases over time, thus maintaining the positive environmental impacts of the tax • Investment flows: Creating a long-term perspective for environmental taxation incentivises not only the desired, but potentially reversible, behavioural change in the short term. In the longer term it provides much-needed investment certainty and hence creates an incentive for investment and innovation in clean technologies and hence enables structural change • Fiscal impact: Government budgets are protected against price risks and tax revenue increases or at least remain proportionally stable – an escalator can keep revenue stable when consumption of a particular pollutant falls, by increasing revenue per unit of pollution emitted. • Political feasibility: Initial tax rates are low and economic actors have time to adjust • Inflation impacts tend to be short-lived: While increasing energy prices in developing countries may cause a short-term spike in inflation, in the medium term this tends to flatten out (IISD/GSI 2013). Furthermore, other prices or taxes on other commodities can be lowered to offset this impact. 	<p>Anticipatory inflation: Developing countries are more vulnerable to price shocks and usually experience more unstable price levels than OECD countries. They also tend to have higher rates of inflation. There is hence a risk that a tax escalator may lead to anticipatory inflation.</p>

Box 5.6
Special Consumption tax in Turkey

Turkey introduced the special consumption tax (SCT) in 2002 on petrol products, natural gas, lubricant oil, solvents and derivatives of solvents, but also extended to land, air and sea vehicles as well as alcoholic beverages, tobacco products and other consumption goods (Ministry of Finance Turkey, 2016). The latest tax figures show it contributed 2 billion liras (\$681.4 million) in 2016 and 8 billion liras (\$2.7 billion) in 2017 (Hurriyet Dailey News, 2016). The tax is used to balance the public budget.

The SCT on motor fuels is a fixed sum per litre or kilogram for each type of fuel. The rate is adjusted by the Government from time to time for inflation. If the SCT increase exceeds the inflation rate of a given year, the level is maintained in the following year(s) to ensure tax increases do not exceed the average inflation rate over time. The end-use motor fuel price consists of the pre-tax price, the SCT and the VAT of 18 per cent. When international market prices rise, the higher pre-tax price leads to an increase in VAT revenue, which is used to balance the public budget. This is not necessarily the case, however, as VAT revenue from other commodities may fall to compensate for additional spending on transport fuel. Once the international market price decreases and VAT returns decrease, the Turkish Government increases the SCT (Erdogdu, 2013).

Contrary to fixed, quantity based consumption taxes on fossil fuels, the SCT does not decrease in real terms since it is periodically adjusted for inflation and for changes in global oil market prices.

Another response to this common problem in developing countries has been to introduce environmental taxes at an initially low rate to enhance political feasibility, while including a range of tax rates in legislation to ensure that they can be increased relatively easily – and with little political resistance – in the future. Viet Nam followed this approach when it implemented its wide-ranging Environmental Protection Tax in 2012 (Cottrell et al., 2016). The case demonstrates the flexibility offered to policymakers if ranges of possible tax rates are included in legislation and a way in which introducing an environmental tax at an initially low rate, which may seem unambitious at first, can nevertheless pave the way for more tax increases.

6.5 Tax design to leverage private investment

One objective of environmental taxation is to encourage private investment in climate – and environment-friendly technologies and green growth industries.

In general, investors seek low-risk investments with a guaranteed rate of return. However, investments in developing countries are commonly perceived as high risk, as regulatory frameworks and political circumstances tend to be less stable. To combat such perceptions, policymakers can take the following steps to reduce risk (Brown and Jacobs, 2011):

- Reduce political risk by ensuring property rights are secure and simplifying legal procedures;
- Reduce currency risk by introducing a foreign exchange liquidity facility to cover losses investors may incur as a result of fluctuating exchange rates;
- Reduce regulatory and policy risk by ensuring policies are clear, stable, predictable and credible, and planned over a sufficient timeframe to reassure investors that risks are low;
- Reduce execution risk by providing loan guarantees and support; and
- Reduce technology risk and unfamiliarity risk.

Aside from this general guidance on reducing risk to leverage investment, countries can foster a more attractive investment climate if they understand investors' requirements. Policymakers can incentivise investment by ensuring that environmental taxes are stable, credible and sufficiently high to guarantee a rate of return on green investment, and by clearly communicating to investors that taxes will remain in place in the long term.

In Viet Nam, a review of investor sentiment conducted by the International Institute for Sustainable Development in 2015 revealed that the decisions of those looking to make foreign direct investments would not be negatively affected by increased energy prices, but by a lack of skilled human resources and an unreliable electricity supply (Garg et al., 2015). Stable and predictable environmental taxes – including regular predictable increases in tax rates resulting from a tax escalator and/or indexation – may thus encourage investment.

Environmental taxation can also be designed so that revenue is used for investment. In China in 2006, increases in consumer electricity prices were used to help the power industry bear the costs of desulfurization of electricity. Within a short period of time desulfurization facilities worth RMB 8 billion–RMB 13.4 billion (\$1 billion–\$1.9 billion) has been built and sulfur dioxide emissions fell by more than 1.8 million metric tons per year. The costs of environmental damage were cut by RMB 36 billion (\$5 billion) (GTZ, 2008). Similarly, in Islamic Republic of Iran 20 per cent of the savings from subsidy reform were redirected to industry to facilitate investment in energy efficiency (IISD, 2013). Such strategic use of revenue can reduce the overall cost of environmental tax policies (Ekins, 2009).

6.6 Designing environmental taxation as part of a policy package

Environmental policies tend to produce greater environmental benefit if they are part of a raft of measures to bring about the desired environmental change – a so-called policy package (see box 5.7 with examples from China and Sri Lanka). This is because environmental problems tend to be multidimensional – not only does it matter how much pollution is released, but also where and how (OECD, 2006). The Tinbergen rule suggests that one instrument per objective is required, and so one instrument will be required per market failure, such as a tax to address an externality and labelling to address information failures (OECD, 2006; Tinbergen, 1952). In addition, as responses to environmental taxes change over time – behaviour change in the short term and changes in investment patterns and innovation in the medium and long term – packages of complementary instruments can facilitate these differentiated responses. Assuming that policies do not overlap, policy packages have the potential to act in a complementary way to achieve environmental goals while limiting compliance-cost uncertainty, enhancing enforcement possibilities and reducing administrative costs (OECD, 2006). For example, taxes can incentivize new investments, while low-cost loans facilitate behaviour change.

Box 5.7**Policy packages: examples from China and Sri Lanka****Differentiated electricity pricing in China and complementary measures to reduce sulfur dioxide emissions**

Sulfur dioxide and nitrogen oxide emissions have become a main environmental concern in China. Given one third of China's territory is reported to be affected by acid rain, and local air pollution affects major cities across the country, reducing sulfur dioxide and nitrogen oxide emissions has been the key environmental target in China.

Therefore, the Government has offered a premium on electricity generated by coal power plants equipped with a flue gas desulfurization facility and denitrification facility respectively, supporting coal power plant operators to comply with governmental regulations that foresee installation of these facilities. While initially only newly- built installations were to be equipped with such facilities, subsequently also most of existing coal power plants needed to be retrofitted.

The premium on desulfurized electricity paid by the Government is RMB 0.015/kWh, equivalent to the average estimated cost of operating the technology. The payment scheme is supported by other policies for power plants equipped with flue gas desulfurization (FGD) that give priority to them for connections to grids, permission to operate longer than plants that do not install desulfurization capacity and priority dispatching in Shandong and Shanxi Provinces. Along with decreasing capital costs for FGD facilities (down to about 200 Yuan/kW in 2006 from 800 Yuan/kW in the 1990s), thus making it less costly to install FGD facility, the coal-fired units installed with FGD increased to 630 GW by 2011, from 53 GW in 2005, and the portion of coal-fired units with FGD rose to 90 per cent in 2011 of the total installed thermal capacity.

As a result of this policy, China had cut its sulfur dioxide emissions by 13.14 per cent relative to its 2005 levels by the end of 2009, having met the 2010 target of a 10 per cent cut one year ahead of schedule (Zhang, 2014). More ambitious targets followed the success of these policies – indeed, by 2015, all FGD and denitrification-installed facilities were required to achieve a desulfurization rate of 95 per cent and a denitrification rate of at least 75 per cent, in order for the power industry to cut sulfur dioxide emissions by 16 per cent and nitrogen oxide emissions by 29 per cent by 2015 relative to 2010 levels (State Council 2012).

Thus since 2011, the Government has also offered a premium for electricity generated by power plants with a flue gas denitrification facility. Initially the premium was set at 0.008 RMB/kWh but was found to be too low to incentivize retrofitting of coal power plants. By the end of 2012, only around 28 per cent of existing coal power plants were equipped with a denitrification facility. Since the beginning of 2013, the price premium has therefore been increased to 0.01 RMB/kWh, and the coal-fired units installed with denitrification facility amounted to 190 GW. Nitrogen oxide emissions were estimated to have been cut by 3.5 per cent, the first time below 2010 reference levels (Zhang, 2014). But estimates of the China Electricity Council indicate that the cost of denitrification is still higher than the premium paid, ranging from 0.012 RMB/kWh to up to 0.020 RMB/kWh. Given the current level of price premium for denitrification, it is unclear whether all coal-fired units will install a denitrification facility.

Given that the compliance costs may be higher than the offered price premium and are increasing as emissions targets become increasingly stringent, on the one hand, and that dodging of environmental regulations is widespread and common in China, on the other hand, compliance monitoring and enforcement of non-compliance penalties is key and will determine if the desired outcomes were achieved. Compliance assessments of plant operations by the Government revealed improper operations of FDG facilities in some power plants. As a consequence, plant owners not only had to return the premium paid, but were also charged high penalties, up to five times of the amount received (Zhang, 2014).

Water tariffs and complementary measures in Sri Lanka

Sri Lanka's water tariffs set out to address the problem of water scarcity by encouraging water conservation and achieve financial sustainability in the sector. Other policies support the achievement of these objectives and set out to achieve a number of distinct policy objectives, such as meeting investment needs; improving sector governance; and tackling water resource pollution. The headline target of the country's water policy strategy is to give access to safe drinking water and improved sanitation for all citizens by 2020 (Mingyuan, 2015).

Thus far, the complementary nature of the package has made substantial improvements to water supply and sanitation in the country, particularly in the capital city, Colombo. As part of the package, water tariffs have been introduced to achieve cost-coverage in the sector and help achieve financial stability. This includes an innovative tariff structure, which increases for domestic consumption in tandem with consumption levels to encourage water conservation. The tariff is structured progressively, guaranteeing a 'lifeline' level of water consumption for low-level consumers at very little cost, but charging higher rates for high levels of consumption. In 2009 and 2012, the tariff for domestic consumers changed so that now poor and rich consumers are charged differently. For low-level consumption the higher income group is charged 150 per cent of the price paid by the low-income group. With a sufficiently large consumer base that has enough high-income consumers, the water tariff enables the recovery of costs and the progressive structure supports poor people. The costs are associated with operating, maintaining and extending the water networks and providing basic levels of service.

Sri Lanka, particularly Colombo, has also faced problems associated with high levels of water loss and corresponding revenue losses, which were initially compensated for by increasing water tariffs, placing an unfair burden on customers. In response, additional policies have been put in place to reduce non-revenue water – water losses, typically due to unbilled metered or non-metered consumption, unauthorized or under-measured consumption and losses due to leakage. In Colombo, where non-revenue water levels are highest, key initiatives have been taken to reduce non-revenue water levels and assess the causes of non-revenue water, including surveys of business premises and a detailed assessment of the reasons for non-revenue water consumption, replacement and repair of pipes and water valves, and metering and billing of previously free water supply sources. Repairs of deteriorating pipes led to a 30 per cent reduction in non-revenue water levels in pilot projects, which spread throughout the city to replace distribution pipes and customer connections (Mingyuan, 2015).

Introducing environmental taxes as one element in a broader package of fiscal policies has several advantages:

- Fiscal reform packages can reduce political resistance to environmental taxes, as potential opponents have more than one measure to attack – and often, in such cases, opposition to environmental taxes may prove to be a low priority.
- A bundle of reforms make space for more flexibility for policymakers, which may facilitate social compensation schemes or revenue-shifting.
- Such reforms can use synergies between taxes, by introducing a single collection mechanism for more than one tax, such as excise duties and carbon taxes on transport fuels.

7. Outlook for environmental taxes in Asia and the Pacific

7.1 Summary: recommendations for policymakers

Experience from many countries in which ETR measures are in place shows that ETR can bring significant environmental improvement – even with exemptions or low tax rates in place. In Germany, for example, energy taxes – despite many exemptions to safeguard economic competitiveness – have made the single largest contribution to greenhouse gas emissions reductions of any policy tool.¹³⁴ Another example is the successful phasing out of lead from gasoline (Lovei 1998), where most high-income and many middle-income countries, including Brazil, India and Thailand, drastically reduced or even achieved a complete phase out in the 1990s (Lovei 1998, pp. 15). Thus international organizations such as the IMF regard carbon pricing measures – either through taxes or trading systems designed to behave like taxes – as “potentially the most effective mitigation instruments” (Farid et al., 2016 p. 5).

When seeking to implement environmental taxes, policymakers should consider carefully which political strategies they wish to pursue in their country context. A strategic approach can help to ensure that policymakers maximize the potential of the environmental taxes they introduce to meet the environmental, economic/fiscal or social policy priorities and objectives they have defined. This may include specific measures which are politically feasible and where windows of opportunity for reform exist, or a comprehensive process of environmental fiscal reform.

¹³⁴ <http://dip21.bundestag.de/dip21/btd/18/078/1807854.pdf>

Phasing out fossil fuel subsidies is an important first step towards creating a level playing field in energy markets and paving the way for more ambitious environmental fiscal reforms later on. Subsidy reform can free up substantial revenue to fund development objectives, including sustainable development goals. Careful planning of the process – including careful sequencing, accompanying social and economic policies, and measures to counteract price rises – and strategies to build support for reform at all levels of society are essential to prevent policy reversals.

Strategic approaches to expenditure of environmental tax revenue can enhance political acceptance and secure buy-in from potential opponents of reform. The political consensus can be enhanced if Governments work with firms set to benefit from environmental taxation in the media to raise awareness and so enhance acceptance among business and industry. If a portion of revenue is allocated to measures to facilitate green economy transitions, this can bring about greater environmental gains at lower tax rates. Concerns about accountability and governance can be resolved by increasing the transparency of government budgeting and public financial management, or by creating an independent agency to distribute and manage funds.

Communication and cooperation at all levels is crucial. Environmental taxation is a cross cutting issue and the cooperation of government ministries can result in better policy development and more successful implementation. Communication with all stakeholders can improve understanding and foster political acceptance. In addition, empowerment and ownership of particular tax measures can be secured through the involvement of key stakeholders in policy development.

However, competitiveness concerns often pose a significant obstacle to the implementation of environmental taxes, especially carbon-energy taxes. However, as only a few energy-intensive sectors produce goods that are highly traded internationally, only these companies should be considered for compensation or support measures. Such measures, if implemented, should always be carefully targeted, time-limited and subject to regular review to prevent subsidy dependency. Due to the dynamic nature of environmental taxes, firms that lose out from reform in the short term may stand to gain in the long term if they respond to a tax by investing in energy-efficient technologies. Policymakers should facilitate and support that process. Special conditions for industry may be necessary to build a consensus and achieve 'buy-in' from industry opponents.

In countries with high poverty rates and income inequalities, social protection schemes must accompany all measures which increase prices to ensure that vulnerable people are protected. If possible, protection or compensation schemes should not undermine the incentive effect of a tax.

Policies should focus on co-benefits to facilitate green transition, or socially transforming policies to reduce inequality and deepen participation. It may be more feasible in some cases to grant the most disadvantaged regular cash transfers, which has helped to make welfare spending more acceptable in many developing countries (Schubert, 2017).

Environmental taxes are typically difficult to evade and can be levied upstream on a small number of taxpayers. Some authors have suggested that they may also encourage informal sector firms to transition into the formal economy by reducing the benefits of non-payment of income taxes or social ancillary costs and increasing the indirect tax burden (see Liu, 2012; Fay, 2015).

Tax design must begin with clearly defined policy objectives and instruments must be chosen and designed based on these objectives. Environmental impact, economic efficiency and cost-effectiveness, distributional impacts, and administrative and political feasibility are the main criteria to guide instrument choice, and policymakers should also consider the capacity of the State to implement the chosen instrument. These factors also feed into tax design decisions, such as identifying the tax base, the point of collection and tax coverage.

It is also recommended that environmental taxes in developing countries are indexed to inflation or GDP growth and be equipped with an escalator, so that tax rates are not devalued, but increase year-on-year. This way, low initial rates can foster political acceptance and give stakeholders time to adjust, while increases over time guarantee stable revenue and maintain environmental effectiveness.

Policy stability, credibility and predictability are crucial to ensure that firms and individuals respond to the price incentives resulting from environmental taxation. If uncertainty about the predictability and longevity of a tax rate emerges, investors may regard the risk of low-carbon, energy-efficient or pollution-reducing investments to be too high. At the same time, incentivising private investment requires additional measures to minimize risk and create stable investment frameworks that guarantee – or at least increase the probability of – a safe return. Such measures can include low-cost loans for private investors, accelerated depreciation, preferential interest rates or, for renewable energy, long-term power purchase agreements (Cottrell, Fortier and Schlegelmilch, 2015). Environmental taxation has been shown to be most effective when implemented alongside a package of complementary measures to facilitate investment in green economy transition.

7.2 International and regional processes to build support for environmental taxation

The rapid growth of developing economies in Asia and the Pacific brings with it a rising risk of cross-border tax evasion and avoidance. Therefore, tax authorities must work together more than ever to counter those risks, and countries in the region should prioritize tax information exchange. However, frameworks for regional cooperation in Asia and the Pacific are not as developed as frameworks in Europe, the Americas and Africa (Araki, 2015). The foundations for cooperation on tax matters have already been laid in the region by existing tax administration bodies such as the Study Group on Asian Tax Administration and Research, the tax forum of the Association of Southeast Asian Nations, and within the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) through the Committee on Macroeconomic Policy, Poverty Reduction and Financing for Development, along with the Eminent Expert Group on Tax Policy and Public Expenditure Management for Sustainable Development. These collaborations can help feed regional perspectives into global processes, provide a forum for policymakers to discuss common issues, facilitate bilateral work and cooperation on international taxation, develop the capacity of their members and contribute to improved fiscal governance (Araki, 2016).

On environmental taxation, much may be gained from information exchange and cooperation, and from coordination or even harmonization of tax rates. Competitiveness concerns and possible leakage of tax impacts can be reduced if environmental taxes are introduced at similar levels in neighbouring countries. A platform focussing on cooperation related to environmental taxation could facilitate exchange of experiences and information between countries and support steps towards harmonization of specific environmental tax rates and environmental taxes most likely to result in cross-border smuggling, such as fuel taxes.

Globally, there are several policy processes that are also ongoing, which are focussed on environmental fiscal reform. These policy processes offer Governments the chance to collaborate on the development of carbon taxes and fossil fuel subsidy reform, agree timelines, and exchange and learn from each other's experiences. Notable are the Paris Agreement, the Kyoto Protocol, the SDGs and commitments through the Group of 20 and the Asia-Pacific Economic Cooperation (APEC) forum to phase out fossil fuel subsidies.

Alongside those international processes, a number of international platforms and organizations promote various aspects of environmental fiscal reform, including carbon pricing (taxes and trading) and fossil fuel subsidy reform. These include the Carbon Pricing Leadership Coalition and

the Carbon Pricing Panel, the Partnership for Market Readiness, the ESCAP Eminent Expert Group on Tax Policy and Public Expenditure Management for Sustainable Development, the Green Fiscal Policy Network, Green Budget Germany/FÖS, the Friends of Fossil Fuel Subsidy Reform and the Global Subsidies Initiative.

The feasibility of regional cooperation in Asia and the Pacific on environmental tax matters remains to be seen. But one fact remains. Countries in the Asia-Pacific region need environmental taxes, be they unilateral or multilateral, to improve decision-making and ensure that correct price signals impact consumers and industrial producers. Without those measures, investors will continue to drive capital toward polluting, resource-intensive, energy-intensive and fossil fuel-intensive processes, infrastructures and technologies in the region. Well-designed and implemented environmental taxation can redirect them from those least-cost opportunities and leverage their productivity for the realisation of the SDGs and the transition to a green economy.

References

- Araki, S. (2015). International-regional cooperation and tax information exchange among Asia-Pacific tax authorities. *Asia-Pacific Tax Bulletin*, vol. 21, No. 4 (July).
- (2016). Prospect of greater regional public finance co-operation in Asia and the Pacific. Presentation at Inaugural Meeting of the Eminent Expert Group on Tax Policy and Public Expenditure Management for Sustainable Development. Bangkok, July.
- BAFU (2015). CO2-Abgabe. Retrieved from: <http://www.bafu.admin.ch/klima/13877/14510/14511/index.html?lang=de>. Last accessed on: 18.5.2015.
- Besley, T., and T. Persson (2014). Why do developing countries tax so little? *Journal of Economic Perspectives*, vol. 28, No. 4 (Fall), pp. 99-120.
- Bräutigam, D. (2008). Introduction. In *Taxation and State-Building in Developing Countries: Capacity and Consent*. D. Bräutigam, Odd-Helge Fjeldstad and Mick Moore, eds. Cambridge: Cambridge University Press.
- Brown, J., and M. Jacobs (2011). Leveraging private investment: the role of public sector climate finance. ODI Background Note. London. Available from <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7082.pdf>.
- China Carbon Forum (2016). China's national emission trading scheme and the European perspective – what to expect from 2017? Available from www.chinacarbon.info/wp-content/uploads/2016/07/Executive-Summary-Chinas-National-ETS-20160427.pdf.
- China, State Council (2012). *The 12th Five-Year Plan for Energy-Saving and Pollution-Cutting*. Available from www.gov.cn/zwggk/2012-08/21/content_2207867.htm.
- Climate Home (2016). Will doubling India's coal tax boost the clean energy sector?, 1 April. Available from www.climatechangenews.com/2016/04/01/will-doubling-indias-coal-tax-boost-the-clean-energy-sector/.
- COMETR (2007). *Competitiveness Effects of Environmental Tax Reforms*. Available from <http://cordis.europa.eu/documents/documentlibrary/124729471EN6.pdf>.
- Convery, F., S. McDonnell, and S. Ferreira (2007). The most popular tax in Europe? Lessons from the Irish plastic bags levy. *Environmental and Resource Economics*, vol. 38, No. 1, pp. 1-11.
- Cottrell, J. and others (2013). Green Revenues for Green Energy: Environmental fiscal reform for renewable energy technology deployment in China. IISD.
- (2016). *Environmental Tax Reform in Developing, Emerging and Transition Economies*. Studies. Bonn: German Development Institute.
- del Granado, J.A., D. Coady, and R. Gillingham (2010). The unequal benefits of fuel subsidies: a review of evidence for developing countries. IMF Working Paper No. 10/202. Washington, D.C. Available from <https://www.imf.org/en/Publications/WP/Issues/2016/12/31/The-Unequal-Benefits-of-Fuel-Subsidies-A-Review-of-Evidence-for-Developing-Countries-24184>.
- Ekins, P. (2009). *Resource Productivity, Environmental Tax Reform and Sustainable Growth in Europe*. London: Anglo-German Foundation.
- Ekins, P., and B. Etheridge (2006). The environmental and economic impacts of the UK climate change agreements. *Energy Policy*, No. 15, pp. 2071-2086.
- Erdogdu, E. (2013). Motor fuel prices in Turkey. Munich Personal RePEc Archive Paper No. 55521. Ankara. Available from https://mpra.ub.uni-muenchen.de/55521/1/MPRA_paper_55521.pdf.

- Farid, M., and others (2016). After Paris: Fiscal, macroeconomic, and financial implications of climate change. IMF Staff Discussion Note No. 16/01. Available from www.imf.org/external/pubs/ft/sdn/2016/sdn1601.pdf.
- Fay, M., and others (2015). Decarbonizing Development: Three Steps to a Zero-Carbon Future. Climate Change and Development Series. Washington, D.C.: World Bank Group.
- Food and Agriculture Organization of the United Nations (FAO) and Intergovernmental Technical Panel on Soils (2015). Status of the World's Soil Resources 2015. Rome. Available from www.sepa.gov.rs/download/zemljiste/FAO_SoilResources_2015.pdf.
- Fuest, C., S. Hebous, and N. Riedel (2011). *International Profit Shifting and Multinational Firms in Developing Economies*. Available from <https://www.theigc.org/wp-content/uploads/2014/10/Fuest-Et-Al-2011-Working-Paper.pdf>.
- Garg, V., R. Bridle, and K. Clarke (2015). *Energy Pricing, Energy Supply and FDI Competitiveness in Viet Nam: An Assessment of Foreign Investor Sentiment*. Available from www.iisd.org/GSI/sites/default/files/ffs_vietnam_fdi.pdf.
- Goulder, L.H., and Ian W.H. Parry (2008). Instrument choice in environmental policy. *Review of Environmental Economics and Policy*, vol. 2, No. 2 (July), pp. 152-174.
- Green Fiscal Commission (2009). *The Case for Green Fiscal Reform*. London. Available from http://www.greenfiscalcommission.org.uk/images/uploads/GFC_FinalReport.pdf.
- _____ (2010). Competitiveness and environmental tax reform. Briefing Paper Seven. London. Available from www.greenfiscalcommission.org.uk/images/uploads/gfcBriefing7_PDF_isbn_v8.pdf
- Green Fiscal Policy Network (2013). Environmental taxation in Viet Nam: Tackling both environmental problems and state deficits with economic instruments. Available from <http://www.greenfiscalpolicy.org/wp-content/uploads/2013/08/Environmental-Taxation-in-Viet-Nam.pdf>. Accessed 23 February 2017.
- GTZ (2008). Environmental Fiscal Reform in Developing, Emerging and Transition Economies: Progress and Prospects. Bonn. Available from http://www.worldecotax.org/downloads/info/documentation_gtz-Workshop.pdf.
- Guillaume, D., R. Zyteck, and M.R. Farzin (2011). Iran – the chronicles of the subsidy reform. IMF Working Paper No. 11/167. Washington, D.C. Available from www.imf.org/en/Publications/WP/Issues/2016/12/31/Iran-The-Chronicles-of-the-Subsidy-Reform-25044.
- Hammar, H., and S. Åkerfeldt (2011). CO2 taxation in Sweden – 20 years of experience and looking ahead. Available from https://www.globalutmaning.se/wp-content/uploads/sites/8/2011/10/Swedish_Carbon_Tax_Akerfeldt-Hammar.pdf.
- Hassanzadeh, E. (2012). Recent developments in Iran's energy subsidy reforms. Policy Brief. International Institute for Sustainable Development. Available from www.iisd.org/gsi/sites/default/files/pb14_iran.pdf.
- Héritier, A., and D. Lehmkuhl (2008). The Shadow of Hierarchy and New Modes of Governance. *Journal of Public Policy*, vol. 28, No. 01, pp. 1-17.
- Hindustan Times (2015). Delhi residents to generate own water bills using mobile app soon, 16 June. Available from www.hindustantimes.com/delhi-news/delhi-residents-to-generate-own-water-bills-using-mobile-app-soon/story-qmpKO6SYZtgzidhyhMwfj.html.
- Hoerner, A. (1998) *The Role of Border Tax Adjustments in Environmental Taxation: Theory and U.S. Experiences*. Working paper presented at the International Workshop on Market Based Instruments and International Trade, Amsterdam, 19 March. Available from http://rprogress.org/publications/1998/BTA_1998.pdf.

- HSBC (2009). A Climate for Recovery: The Colour of Stimulus Goes Green. Available from http://globaldashboard.org/wp-content/uploads/2009/HSBC_Green_New_Deal.pdf.
- Huong (2014). Evaluating the economic and environmental Impacts of the Law on Environment Taxes in Viet Nam. GIZ Macroeconomic Reforms Program / Ministry of Finance, Hanoi, December (unpublished).
- Hurriyet Dailey News (2016). Turkey raises tax on fuel, cuts tax on housing sales tax, 8 September. Available from www.hurriyetdailynews.com/turkey-raises-taxes-on-fuel-cuts-housing-sales-tax.aspx?pageID=238&nID=103734&NewsCatID=344.
- International Institute for Sustainable Development (2013). A Guidebook to Fossil-Fuel Subsidy Reform for Policy Makers in Southeast Asia. Geneva. Available from <http://www.iisd.org/library/guidebook-fossil-fuel-subsidy-reform-policy-makers-southeast-asia>.
- _____ (2015). Indonesian Energy Subsidy Review: A Biannual Survey of Energy Subsidy, Issue 1, vol. 2 (March). Geneva. Available from www.iisd.org/gsi/sites/default/files/ifs_indonesia_reviewi2v1_english.pdf.
- International Monetary Fund (2015). Counting the cost of energy subsidies, 17 July. Available from www.imf.org/external/pubs/ft/survey/so/2015/new070215a.htm.
- International Monetary Fund (2012). Fiscal Policy to Mitigate Climate Change: A Guide for Policymakers. Available from: http://www.greenfiscalfiscalpolicy.org/wp-content/uploads/2013/08/Fiscal_Policy_to_Mitigate_Climate_Change_IMF2012_Summary.pdf. Accessed 30 October 2015.
- International Partnership in Mitigation and MRV (2017). Measuring, Reporting and Verification (MRV). Available from <https://mitigationpartnership.net/measuring-reporting-and-verification-mrv-0>. Accessed 13 February 2017.
- Institute for Global Environmental Strategies (2004). Asia-Pacific Environmental Innovation Strategies (APEIS) – Research on Innovative and Strategic Policy Options (RISPO) – Good Practices Inventory – Shift from Leaded to Unleaded Gasoline in Thailand. Available from <http://enviroscope.iges.or.jp/contents/APEIS/RISPO/inventory/db/pdf/0097.pdf>. Accessed 16 March 2016.
- Israngkura (2014). An analysis of economic instruments for GHG mitigation in Thailand.
- Jones, B. (2011). Driving a green economy through public finance and fiscal policy reform. *Journal of International Commerce, Economics and Policy*, vol. 2, No. 2.
- Liu, A.A. (2013). Tax evasion and optimal environmental taxes. *Journal of Environmental Economics and Management*, vol. 66, No. 3, pp. 656-670.
- Lovei, M. (1998). Phasing out lead from gasoline: worldwide experience and policy implications. World Bank Technical Paper No. 397. Washington, D.C. Available from <http://siteresources.worldbank.org/INTURBANTRANSPORT/Resources/b09phasing.pdf>.
- Mehling (2008). Interim Report: Environmental Priorities for Viet Nam and Assessment of Current Environmental Levies in Viet Nam. Hanoi: European Technical Assistance Programme for Viet Nam. Available from http://files.foes.de/de/downloads/links/ETV2%20%20ISTE1b%20C1%20POL2%20Interim%20Report%20_7%202008_.pdf. Accessed 5 August 2013.
- Mikesell, J.L. (2003). International Experiences with Administration of Local Taxes: A Review of Practices and Issues. Bloomington, Indiana. Available from <https://pdfs.semanticscholar.org/ef7b/6bafb9432201f54a9a02dfed1a739ec32093.pdf>.
- Mingyuan, Fan (2015). Sri Lanka's water supply and sanitation sector: achievements and a way forward. ADB South Asia Working Paper Series, No. 35. Manila: ADB. Available from www.adb.org/sites/default/files/publication/161289/south-asia-wp-035.pdf.

- Mirrlees, James. (2010). *Dimensions of Tax Design*. Oxford. Available from www.ifs.org.uk/docs/mirrlees_dimensions.pdf.
- Norway, Ministry of Finance (2014). Mandate for a new green tax commission. Oslo.
- Organisation for Economic Co-operation and Development (OECD) (2006). *The Political Economy of Environmentally Related Taxes*. Paris.
- _____ (2010a). *Taxation, Innovation and the Environment*. Paris.
- _____ (2010b). *Green Growth Strategy Interim Report: Implementing Our Commitment to a Sustainable Future*. Paris.
- _____ (2017). *Glossary of Industrial Organisation Economics and Competition Law*. Paris. Available from www.oecd.org/regreform/sectors/2376087.pdf.
- Parry, I.W.H., R. de Mooij, and M. Keen, eds. (2012). *Fiscal Policy to Mitigate Climate Change: A Guide for Policymakers*. Washington, D.C.: International Monetary Fund.
- Pasfield, B., and E. Paeffgen (2013). How to enforce a carbon tax: lessons from the Montreal Protocol and the U.S. experience with the ozone depleting chemicals tax. *Vermont Journal of Environmental Law*, vol. 14, pp. 389-409.
- Pereira, F.G., W. Hoekstra, and J. Queijo (2013). *Unlocking Tax-Revenue Collection in Rapidly Growing Markets*. McKinsey & Company.
- Pollitt, M.G., and I. Shaorshadze (2011). The role of behavioural economics in energy and climate policy EPGR Working Paper No. 1130, Cambridge Working Paper on Economics No. 1165. Available from www.econ.cam.ac.uk/research-files/repec/cam/pdf/cwpe1165.pdf
- Porter, M.E., and C. van der Linde (1995). Toward a new conception of the environment-competitiveness relationship. *The Journal of Economic Perspectives*, vol. 9, No. 04 (Autumn), pp. 97-118.
- Raworth, K., S. Wykes, and S. Bass (2014). *Securing social justice in green economies*. Issues Paper. London: International Institute for Environmental Development. Available from <http://pubs.iied.org/pdfs/16578IIED.pdf>.
- Reuters (2016). China to levy new taxes in bid to strengthen pollution fight, 25 December. Available from www.reuters.com/article/us-china-environment-idUSKBN14E05T.
- Schlegelmilch, K., and A. Joas (2015). Fiscal considerations in the design of green tax reforms. Green Growth Knowledge Platform, Third Annual Conference. Venice. Available from www.greengrowthknowledge.org/sites/default/files/Schlegelmilch_Fiscal_considerations_in_the_design_of_green_tax_reforms.pdf
- Schlegelmilch, K., and others (2016). Reforming and introducing green fiscal instruments for green growth delivery in Lao PDR.
- Schlegelmilch, K., H. Eichel, and A. Pegels (2017). Pricing environmental resources and pollutants and the competitiveness of national industries. In *Green Industrial Policy. Concept, Policies, Country Experiences*. Tilman Altenburg and Claudia Assmann, eds. pp. 102-119. Geneva, Bonn: UN Environment and German Development Institute, Available from http://www.un-page.org/files/public/green_industrial_policy_book_aw_web.pdf.
- Schubert, B. (2017). Social cash transfers: welfare payments are no longer taboo. *Development and Cooperation: International Journal*, No. 1 (January).
- Science Daily (2016). Poor air quality kills 5.5 million worldwide annually, 12 February. Available from www.sciencedaily.com/releases/2016/02/160212140912.htm.
- Sieber, P. (2013). Environmental fiscal reform to promote green economy in countries in transition: progress on sustainable development and poverty eradication in Viet Nam. Bachelor Thesis, Vienna. Available from www.foes.de/pdf/2013-07-15_Bachelor%20Thesis_Petra%20Sieber.pdf.

- Speck, S. (2016). Written input for the inaugural meeting of the Eminent Expert Group on Tax Policy and Public Expenditure Management for Sustainable Development. Bangkok, 6-7 December. Available from [www.unescap.org/sites/default/files/Topic%205.%20Stefan%20Speck%20\(written%20input\).pdf](http://www.unescap.org/sites/default/files/Topic%205.%20Stefan%20Speck%20(written%20input).pdf).
- Speck, S., and A. Datta (2007). EFR – differences and similarities between developed and developing countries. A case study of Sri Lanka. The Eight Global Conference on Environmental Taxation. Munich. Available from <http://www.worldcotax.org/downloads/Presentations/SpeckDatta.pdf>
- STELCO (2016). Tariff Rates. Available from www.stelco.com.mv/tariffs. Accessed 26 January 2017.
- Thailand, Macroeconomic Strategy and Planning Office (2012). Thai Economic Performance in Q4 2011 and Outlook for 2012. Press release. Bangkok, 20 February.
- Tinbergen, J. (1952). *On the Theory of Economic Policy*. Amsterdam: North Holland.
- Turkey, Ministry of Finance (2016). *Turkish Taxation System*. Available from www.gib.gov.tr/sites/default/files/fileadmin/taxation_system2016.pdf.
- United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) (2016a). *The Economics of Climate Change in the Asia-Pacific Region*. Bangkok. Available from <http://www.unescap.org/publications>.
- (2016b). *Economic and Social Survey of Asia and the Pacific 2016*. Sales No. E.16.II.F.10.
- (2016c). Issues Paper prepared for the Inaugural meeting of the Eminent Expert Group on Tax Policy and Public Expenditure Management for Sustainable Development.
- (2012). *Low Carbon Green Growth Roadmap for Asia and the Pacific: Turning resource constraints and the climate crisis into economic growth opportunities*.
- United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Asian Development Bank (ADB) and the United Nations Environment Programme (2012). *Green Growth, Resources and Resilience: Environmental Sustainability in Asia and the Pacific*.
- United Nations Environment Programme (2011). *Towards a Green Economy: Pathways to Sustainable Development and poverty eradication*. Nairobi, Kenya. Available from www.unep.org/greeneconomy.
- United Nations Environment Programme and Bloomberg New Energy Finance (2016). *Global Trends in Renewable Energy Investment 2016*. Frankfurt. Available from http://fs-unep-centre.org/sites/default/files/publications/globaltrendsrenewableenergyinvestment2016lowres_0.pdf.
- Vatn, A., V. Kvakkestad, and P.K. Rorstad (2002). Policies for multifunctional agriculture: The trade-off between transaction costs and precision (Report No. 23). Ås, Norway: Agricultural University of Norway.
- Vivid Economics (2012). Carbon taxation and fiscal consolidation: The potential of carbon pricing to reduce Europe's fiscal deficits. London, United Kingdom. Available from http://www.foes.de/pdf/2012-05_CETRiE_Carbon_Pricing_Report_web.pdf
- Willenboeckel (2010). Impact Assessment Report of Draft Environmental Tax Law for Viet Nam. Eschborn: Gesellschaft für Technische Zusammenarbeit. Available from http://www.macroreforms.org/index2.php?option=com_docman&task=doc_view&gid=189&Itemid=99999999. Accessed 5 July 2013.
- World Bank (2005). *Environmental Fiscal Reform – What Should Be Done and How to Achieve It*. Washington, D.C. Available from <http://siteresources.worldbank.org/INTRANE/TENVIRONMENT/Publications/20712869/EnvFiscalReform.pdf>.
- (2016a). Data: GINI Index. Available from <http://data.worldbank.org/indicator/SL.POV.GINI>.

- _____ (2016b). *Shock Waves: Managing the Impacts of Climate Change on Poverty*. Washington, D.C. Available from <https://openknowledge.worldbank.org/bitstream/handle/10986/22787/9781464806735.pdf>.
- Zhang, Zhong Xiang (2014). Energy prices, subsidies and resource tax reform in China. *Asia and the Pacific Policy Studies*, vol. 1, No. 3, pp. 439-454.

Tax policy has undergone significant transformation over the last half a century, and the tax policy advice of scholars and international organizations to developing countries has changed over time. Despite varied recommendations and attempts at taxing more, developing countries still have low levels of tax compared to GDP. Why? What have we learned from the experiences of developing countries over the last several decades? And how can we do better in the future?

In response to fast urbanization, rapid wealth concentration and environmentally unfriendly economic growth in Asia and the Pacific, this book focuses on forward-looking tax policies for sustainable development as part of the solution to these priority challenges. It reflects the well-justified view that tax policy success depends highly on customizing the approach to the unique institutional and political contexts and capacities of each country.

This book envisions economic progress which encompasses the social and environmental aspects of development. It takes a case-by-case approach based on the principle that effective tax policies to support sustainable development must go beyond revenue mobilization and fully leverage and incentivize the private sector to contribute to better social and economic outcomes.



