

Expanding the tax base

Actual tax collections have fallen short of their potential levels in the Asia-Pacific region. An ESCAP study estimated the tax potential in the region, based on each country's economic structure, including such factors as agricultural value added, GDP per capita level and the degree of trade openness.¹ The analysis showed that actual tax collection levels were below their potential levels in 17 Asia-Pacific economies with available data. Such tax gaps are estimated to be more than 6 per cent of GDP in such countries as Afghanistan, Bangladesh, Bhutan and Maldives. To narrow the tax gap, countries could consider (a) enhancing the quality of tax administration, and (b) expanding the tax base. This policy brief focuses on policies aimed at broadening the tax base.

Conceptually, expanding the tax base may be achieved by rationalizing existing tax exemptions and introducing new tax instruments. This policy brief contains two illustrative cases that reflect these policy options: (a) rationalizing tax incentives that are offered to attract foreign direct investment (FDI); and (b) introducing a carbon tax.

Rationalizing tax incentives for foreign direct investment

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

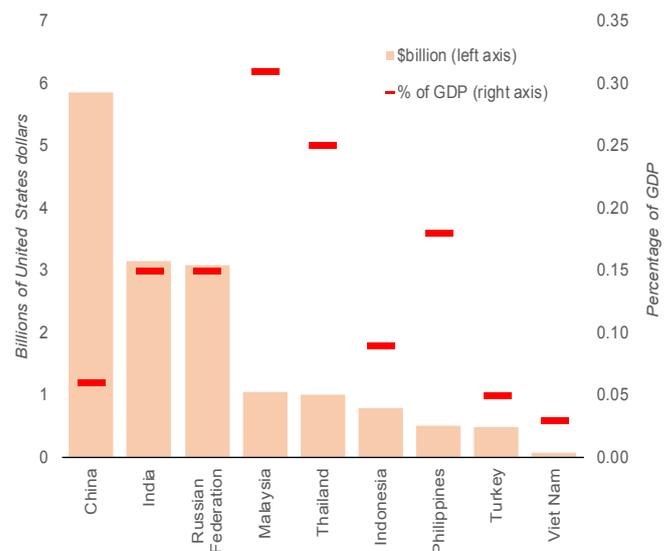
This policy brief estimates the size of tax expenditure relating to FDI tax incentives in developing Asia-Pacific economies. The revenue foregone was calculated as the difference between the tax actually paid and the tax liability under a hypothetical case

in which there were no FDI tax incentives; thus, the statutory corporate income tax rate was applied to profit before taxes.² To consider various deductions to which firms are entitled, such as depreciation allowance, the analysis subtracted 13 per cent of profits before applying the statutory tax rate. That figure is the median value of the ratio of depreciation to profit before taxes ratio during the period 2013-2015.

While not substantial, the revenue forgone due to FDI tax incentives is estimated to be sizeable nonetheless. Based on firm-level financial data of more than 28,500 registered foreign companies in 9 developing Asia-Pacific economies, the total tax expenditure has been estimated at close to \$16 billion in 2014 (Figure 1). In major FDI destinations, such as Malaysia and Thailand, the size of the tax revenue forgone is up to 0.3 per cent of GDP.³

The true economic cost of FDI tax incentives may be underestimated here. Among other reasons, the estimated tax expenditure could be underestimated

Figure 1. Potential tax expenditure on foreign direct investment incentives



Source: Authors' calculations, based on firm-level data in the Orbis database.

due to international tax avoidance techniques and business losses that are carried over from previous years, which make firms' observed tax liability smaller than the hypothetical-case tax liability. More importantly, the race among regional peers to offer a more enabling business environment has incentivized Governments to cut corporate tax rates. Applying the existing statutory tax rates would underestimate the full cost of tax expenditures.

While Governments may consider rationalizing FDI tax incentives where needed, a policy priority should be to improve the investment climate by offering a business-friendly regulatory framework and decent infrastructure. In a survey of investors in Thailand and Viet Nam, more than 80 per cent of respondents stated that an FDI project would still have been made in these countries even without tax incentives.⁴ Moreover, studies have shown that these factors have a larger impact on attracting FDI than tax incentives.⁵ At the regional level, policymakers could strengthen cooperation that would help to avoid a race among regional economies to offer more generous FDI tax benefits.

Introducing a carbon tax

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

A carbon tax is relatively uncommon in the Asia-Pacific region.⁶ Except in parts of Japan where

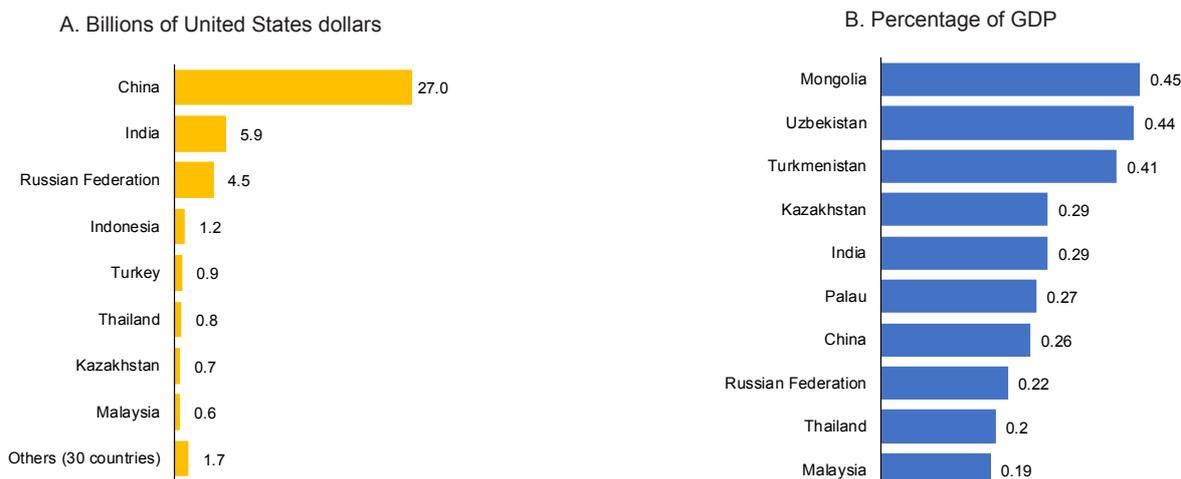
a carbon tax has been in place since 2012, other countries are still considering its introduction. Among others, Singapore plans to introduce a carbon tax in 2019. Such a tax is under study in the Republic of Korea, Thailand and Turkey.

The magnitude of public revenues that a carbon tax could generate depends on several factors. Primarily, such factors include the volume of carbon emissions in a country, the threshold on the level of emissions that would be subject to the carbon tax and the tax rate that would be introduced. Moreover, the potential revenue depends on how the relevant parties respond to the introduction of a carbon tax, such as the adoption of green technologies by energy companies that would lead to lower emission levels. Finally, a carbon tax may reduce tax revenues from other sources. For example, a carbon tax would push up energy production costs, thus reducing the profits and taxes paid by energy companies.

This policy brief contains an estimation of the size of tax revenue that a carbon tax could generate. In the first step, the potential carbon tax revenue is calculated by multiplying each country's carbon emission level by a hypothetical tax rate of \$3.50 per metric ton of carbon dioxide equivalent (tCO₂e), which is the median tax rate of the carbon pricing initiatives in developing countries worldwide.⁷ In the second step, the impact of introducing a carbon tax on the total tax revenue is estimated at 75 per cent of the carbon tax revenue. Such a reduction (25 per cent) is assumed to capture a possible decrease in corporate profit and sales tax revenues after a carbon tax is introduced, an assumption that is also made in other studies.⁸

The potential revenue of a carbon tax in the Asia-Pacific region is estimated to be significant. As a whole, a carbon tax could generate about \$43.3 billion in additional tax revenues per year in 38

Figure 2. Potential tax revenue from introducing a carbon tax in selected economies



Source: Authors' calculations.

developing Asia-Pacific economies. At \$27 billion, China alone already accounts for more than 60 per cent of the total amount (panel A of Figure 2). On average, the estimated increase in the total tax revenue is equivalent to 0.16 per cent of GDP. This increases to 0.21 per cent of GDP in a group of countries with higher carbon intensity, such as Mongolia, Turkmenistan and Uzbekistan (panel B).⁹

One key policy consideration when evaluating the wisdom of introducing a carbon tax is its possible impact on poverty and income distribution. In South-East Asian countries, it was shown that a carbon tax may push up the incidence of poverty if its introduction is not accompanied by compensation to affected households.¹⁰ Moreover, a carbon tax is generally regressive, as poorer households spend disproportionately more on energy items, the prices for which may increase with a carbon tax. To ease public concern, Governments could cut taxes in other areas to compensate for higher energy prices. The Government could also make the introduction of a carbon tax revenue-neutral in the short term by spending carbon tax revenue on schemes to promote the development of green technologies.

4. Sebastian James, *Effectiveness of Investment Incentives in Developing Countries: Evidence and Policy Implications*. (Washington, D.C., World Bank, 2014)

5. See Stephan Van Parys and Sebastian James, "The effectiveness of tax incentives in attracting investment: panel data evidence from CFA Franc zone" *International Tax and Public Finance*, vol. 17, Issue 4, (2010), pp.400-429; and Athiphat Muthitacharoen, "Assessing the importance of taxation on FDI: evidence from South-East Asian Developing Countries" PIER Discussion Paper No. 65 (Bangkok, Puey Ungphakorn Institute for Economic Research, 2017).

6. World Bank, *State and Trends of Carbon Pricing 2016* (Washington, D.C., 2016).

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

8. John Horowitz and others, "Methodology for analyzing a carbon tax" Office of Tax Analysis Working Paper, 115. (Washington, D.C., United States Department of the Treasury, 2017).

9. For technical details, see Annex III in United Nations, Economic and Social Commission for Asia and the Pacific, *Economic and Social Survey of Asia and the Pacific: Mobilizing finance of sustained, inclusive and sustainable economic growth*. Sales No. E.18.II.F.16.

10. Ditya Nurdianto and Budy Resosudarmo, "The economy-wide impact of a uniform carbon tax in ASEAN" *Journal of Southeast Asian Economies*, vol. 33, No. 1, (2016), pp. 1-21.

1. See United Nations, Economic and Social Commission for Asia and the Pacific, *Economic and Social Survey of Asia and the Pacific 2014: Regional Connectivity for Shared Prosperity*. Sales No. E.14.II.F.4.

2. This methodology is based on IMF, OECD, UN and World Bank, *A background paper to the report: options for low income countries' effective and efficient use of tax incentives for investment. A report to the G-20 development working group*. (Washington, D.C., 2015). Available from <https://www.imf.org/external/np/g20/pdf/101515.pdf>.

3. For technical details, see Annex II in United Nations, Economic and Social Commission for Asia and the Pacific, *Economic and Social Survey of Asia and the Pacific: Mobilizing finance of sustained, inclusive and sustainable economic growth*. Sales No. E.18.II.F.16.

The MPFD Policy Briefs aim at generating a forward-looking discussion among policymakers, researchers and other stakeholders to help forge political will and build a regional consensus on needed policy actions and pressing reforms. Policy Briefs are issued without formal editing. This policy brief was prepared by Athiphat Muthitacharoen (Assistant Professor, Faculty of Economics, Chulalongkorn University, Thailand) and Vatcharin Sirimaneetham (MPFD), benefitting from comments by Zheng Jian and Tientip Subhanij, under the guidance of Hamza Ali Malik. For further information on this issue, please contact Hamza Ali Malik, Director, Macroeconomic Policy and Financing for Development Division, ESCAP (escap-mpdd@un.org).