



BACKGROUND NOTE

Tax Primer: With Applications to Asia and Pacific Countries

Sandeep Bhattacharya and Janet G. Stotsky

DISCLAIMER

This background paper was prepared for the report *Asian Development Outlook 2022: Mobilizing Taxes for Development*. It is made available here to communicate the results of the underlying research work with the least possible delay. The manuscript of this paper therefore has not been prepared in accordance with the procedures appropriate to formally-edited texts.

The findings, interpretations, and conclusions expressed in this paper do not necessarily reflect the views of the Asian Development Bank (ADB), its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy of the data included in this document and accepts no responsibility for any consequence of their use. The mention of specific companies or products of manufacturers does not imply that they are endorsed or recommended by ADB in preference to others of a similar nature that are not mentioned.

Any designation of or reference to a particular territory or geographic area, or use of the term “country” in this document, is not intended to make any judgments as to the legal or other status of any territory or area. Boundaries, colors, denominations, and other information shown on any map in this document do not imply any judgment on the part of the ADB concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

TAX PRIMER:

WITH APPLICATIONS TO ASIA AND PACIFIC COUNTRIES

Sandeep Bhattacharya and Janet G. Stotsky

Asian Development Bank

2 February 2022

The authors are grateful to Samuel Hill, Donghyun Park, and Yothin Jinjarak of the Economic Research and Regional Cooperation Department, ADB for very useful comments.

I. INTRODUCTION

Taxation is a central component of the discussion on inclusive growth. Taxes are the main source of funding for public services. But they also play an important role in redistributing income and influencing all forms of economic behavior, including saving and investment, labor supply and consumption, and risk-taking. It can be used also as a tool for tackling broader social goals, such as promoting gender equality or reducing the pace of climate change.

This short primer provides an overview of basic principles of a sound tax policy in developing countries. We emphasize issues that are relevant to Asia and Pacific countries. We examine the basic principles of taxation and then best practice application of those principles, including critical design features of the main taxes.

A tax is a compulsory, unrequited charge imposed by a government to fund public expenditures.¹ Tax systems are based on some combination of broad- and narrow-based taxes, including those levied on income, sales, property and wealth, and international trade. The specific policies and structure that underlie a country's tax system reflect revenue needs, but also many other influences, including a country's history and values, its administrative capabilities, the tax system of its main trade partners and neighbors, and finally the extent to which it seeks to ground its tax system in sound economic principles.²

This note is organized as follows. We first present basic principles of tax policy and reform. We then discuss direct taxes: personal income and payroll taxes, corporate income tax, and property and wealth taxes; and then turn to common indirect taxes: value-added tax (VAT), excise taxes, and taxes on international trade. Then we discuss special topics in taxation, including taxation of extractive industries; gender and taxation; carbon taxation; and issues requiring a global approach, such as base erosion and profit shifting, transfer pricing, and the digital economy; followed by a conclusion.

A. Principles of Taxation

The principles of taxation are derived, in part, from the theory of optimal taxation that suggests the ideal design of a tax system is rooted in underlying economic ideas of efficiency and equity. There are several distinct branches of this theory, which continue to evolve.

The first principle is that the tax system should be *efficient* in that taxes should minimize the degree to which they distort private economic decisions. Taxes change the relative price for an economic activity, and thus change economic behavior. The idea is that tax should be as little distortive of economic decision-making as possible. Distortive taxation produces an excess burden or deadweight loss, defined as the amount of consumer welfare (or surplus) lost because of the tax, over and above the amount collected in taxes.³

The Ramsey rule, dating back about a century, implies that, for a system of indirect taxation on goods and services, tax rates should be set in inverse proportion to the elasticity of demand so that demand is as little changed by the taxes as possible (Ramsey 1927).⁴ However, this tends to imply somewhat regressive taxation (i.e., the average tax rate as a proportion of income falls with higher income)

¹ Shome and International Monetary Fund 1995, Junquera-Varela et al. 2017, and Shome 2021.

² Keen and Slemrod (2021) note that tax practices are shaped more by specific and immediate concerns than higher motives.

³ These ideas apply to producers as well. Stiglitz and Rosengard (2015).

⁴ One can derive an equivalent rule with elasticity of supply as well.

because necessities tend to be more inelastic in demand than luxuries. This rule also ignores that goods and services are complements and substitutes to each other.

Another branch of this theory relates to optimal taxation of income, best captured in Mirrlees' influential work (Mirrlees 1971). An efficient income tax would have relatively low marginal tax rates (i.e., the tax rate applied to the last unit of income) to avoid creating disincentives to earn income either through work or investment.

A second principle is that taxation should take account of the *equity* or *fairness* of taxes. Vertical equity refers to the way tax systems treat taxpayers with different incomes (or wealth). It is generally accepted that a personal income tax should be progressive so that the average tax rate rises with higher income. This sets up a trade-off between an efficient income tax and an equitable one, with the idea that the tax system should balance considerations of both principles in its design.

Horizontal equity refers to the way tax systems treat different taxpayers with equivalent income (or wealth), and these taxpayers should be treated the same. This argues for a broad tax base. There are many ways in which tax systems routinely violate horizontal equity, such as when tax preferences are given for certain activities or capital and labor income are taxed differently.

The degree to which countries seek to redistribute income through public finances varies considerably from one country to another. Some countries, especially the most developed, often have tax systems that are more highly progressive in design than developing countries. This difference reflects several factors, including variation in preferences and the administrative difficulties that developing countries have in capturing income fully in the tax base.

A third principle is that the tax system should be as *simple* as possible to facilitate taxpayer compliance. A straightforward tax system promotes greater transparency, reduces the cost of compliance, and reduces the administrative challenges and costs. Both income taxes and VATs typically have highly complex provisions. Customs tariffs are also complex when considering valuation rules, international conventions, and domestic content laws.

A fourth principle is that the tax system should be *stable* and *predictable* to ensure that taxpayers can plan effectively. Reforms should be well thought-out so that any changes to taxation can remain in place and do not necessitate frequent adjustments.

These four tax policy principles—efficiency, equity, simplicity, and stability or predictability—each make sense individually. Yet, it is often difficult to satisfy all these principles simultaneously. The trade-off between efficiency and equity generally leads to the recommendation that an efficient tax system is one with as low marginal tax rates as possible to achieve tax goals, with broad tax bases, while an equitable tax may require higher tax rates on higher income or wealthy taxpayers than on others. All tax policy issues must be viewed within the lens of revenue needs, and political and administrable feasibility.

I. Tax Incidence

Tax incidence refers to who bears the burden of a tax. There is an important difference between statutory incidence (who is responsible for payment of the tax to the tax authorities) and economic incidence (who bears the burden in terms of reduced real incomes or welfare). A good rule of thumb is that economic incidence tends to be shifted to the side of the market—demand or supply—that is less responsive in behavior to the imposition of the tax.

For instance, the incidence of the corporate income tax is a well-studied issue. The statutory incidence suggests that the tax is borne by corporate capital or the owners of the corporation's capital. However, corporations can adjust their behavior in response to the tax, and the economic incidence may be

shifted to consumers of their products through higher prices or to the workers through lower wages. The degree to which corporations can shift the economic incidence of the tax depends on a host of factors, including the elasticity of demand for the corporation's products and the extent to which the workers can move to alternative employments.

Another example is found in examining the statutory and economic incidence of import duties on imported goods and services. The statutory incidence seems to fall on the suppliers of these products. However, the evidence and standard assumption are that, for the most part, these duties are not borne by the suppliers, but rather by the domestic consumers of these imports, because importers mark up the price of the imported goods and services to reflect these duties. Similar evidence and assumptions apply to domestic taxes on goods and services.

Calculating tax incidence is complex because the tax may not only affect the immediate market for the good or service in which it is applied but have indirect or general equilibrium effects outside those markets (Shoven and Whalley 1984).

2. International Norms of Tax Policy Design and Structure

It is difficult to compare tax systems across countries. What is a good structure for one country may not be good for another country, even if there is agreement on the basic principles. Countries vary a great deal in their need for revenue from taxes, historical structures for taxation already in place, and their capacity to administer the tax system. Nonetheless, the international community has coalesced over the years in agreeing that successful tax policy reform entails certain key features:

- (i) Tax systems should be based on a balance of taxes on income and taxes on goods and services.
- (ii) For developing countries, given the difficulties in administering a personal income tax, corporate income tax should remain a key component of income taxes. Over time, with improved administrative capabilities, personal income tax and payroll taxes should play a larger role.
- (iii) Over time, taxes on international trade should not serve revenue but only limited trade policy purposes.
- (iv) Income and general goods and services taxes (like the VAT) should have broad bases and internationally competitive rates. Competitive income tax rates are especially important because labor and, to an even greater extent, capital are mobile.
- (v) There may be a limited role for tailoring the tax system to the achievement of economic and social objectives, through tax preferences, externality-correcting (i.e., Pigouvian) taxes, or other design features.
- (vi) A progressive personal income tax system can contribute to equity objectives, while other taxes are not as well suited to this objective. Wealth taxes, except those on real estate, are rarely used.
- (vii) The digital economy is difficult to tax effectively, and ad hoc approaches may be overly distortive and disadvantage developing countries.

B. Dynamics of the Reform Environment

The main actors in tax policy analysis and formulation include (i) The treasury or ministry of finance where a tax policy unit is usually situated. (ii) The revenue authority or administration, which often plays a significant role in tax reform and policy formulation, either by providing staff who perform the analysis

or by supporting legal drafting. (iii) The legislative branch of government (Congress or Parliament), which in most countries must pass finance acts and approve tax policy reforms. Often, smaller sub-units such as parliamentary committees perform the real scrutiny and bring to bear technical expertise and present their findings and analysis for debate to the larger body. (iv) Bodies of tax professionals and chambers of commerce are representatives of tax preparers, expert commentators, and taxpayers. (v) Other industry and pressure groups (e.g., labor unions) who are interested in specific aspects of tax policy (Arnold 2013).

In most countries, the responsibility for initiating tax policy reform rests with the political party in power or the executive (Alt, Preston, and Sibieta 2010). Stakeholders outside the finance ministry have a tough time trying to challenge the executive meaningfully and conduct a factual debate on reform implications given asymmetry in access to tax data.

Changes to tax policy generally lead to a shifting of tax burdens from one set of taxpayers to another. As a result, well-designed tax reforms that abide by the principles mentioned above in creating stable, broad-based taxes are often politically challenging. Moreover, powerful actors have an incentive to use their resources and influence to carve out special tax preferences that tend to make the tax system less efficient, less equitable, and less straightforward. Consequently, sound tax policy reform requires determined leaders with a vision (Di John 2006, Ahmed 2013, Hassan and Prichard 2016, Princen 2016, and Ahmed and Heady 2020).

II. PERSONAL INCOME AND PAYROLL TAXES

A personal income tax is a tax imposed on the income of individuals, married couples, or families. The income on which tax is imposed (or taxable income) is broadly defined and includes wages and other compensation for work, gains or losses from the sale of goods or other property, interest, dividends, rents, royalties, annuities, and pensions.

Most countries in the world use this tax. In advanced countries, the personal income tax is usually one of the largest sources of revenue and its yield as share of national output ranges considerably. In developing countries, the personal income tax usually yields a much lower share of revenues and relative to national output, chiefly because of the difficulties in administering it effectively. As such, the tax mainly falls on formal sector wage income, while most capital income and the informal workforce largely escapes the income tax net.

A. Basic Features of the Personal Income Tax

Most income taxes are imposed on total taxable income. This is the “global approach” to income taxation. A few still do not aggregate income and tax different income sources with separate rate schedules and so on. This is the “schedular approach.” Most income taxes today have evolved to a global approach, but they retain some schedular components, such as taxation of capital gains with special rates.

Countries differ on whether they tax the income generated from their territory or all income of a resident or citizen independent of where it was generated. When all income is taxed, countries allow a credit for taxes paid to other countries to avoid taxing the same income twice. Most advanced countries use the territorial approach, whereas most developing countries tax the worldwide income of residents or take a mixed approach.

Most personal income taxes are imposed or assessed on the individual. However, some countries impose the tax on a married couple or a household (joint taxation) rather than the individual. Some provide options to married couples to be taxed jointly or independently, such as in Indonesia.

Personal income taxes typically exclude or exempt certain forms of income from taxation. Common exclusions are pensions and allowances for students, the disabled, or war veterans; employer-provided fringe benefits including health insurance; interest on treasury or subnational government bonds; and interest on deposits in the banking system.

Most personal income taxes also allow taxpayers to take deductions to reduce the amount of income on which the tax is applied for certain expenses that the taxpayer incurs that are perceived to affect their ability to pay or to promote these activities. Common deductions include some forms of interest expenses, medical or educational expenses, childcare expenses, and charitable contributions. If taxpayers derive income from an unincorporated business, they can generally reduce taxable income with deductions related to earning that income. Many personal income taxes allow deductions for income put into certain forms of tax-preferred saving for retirement to encourage more saving.

Most personal income taxes allow a reduction in the amount of tax paid (i.e., a credit) for personal income taxes paid to other jurisdictions. Credit may also be available for any of the deductions listed above, taken as a credit instead, which delinks its value to the taxpayer from the taxpayer's tax rate.

B. Rates

The personal income tax generally has a defined schedule of tax rates that increase with increasing taxable income, grouped in brackets. For instance, there is normally a threshold amount of income before the taxpayer must pay tax. This income is sometimes referred to as the zero bracket. The next bracket of income would face a tax rate of, say, 10%–20%, the next bracket 20% or more, and so on, up to the top tax rate. There could be as few as 1 and as many as 10 or even more brackets, though usually there are about 5 brackets. A rate schedule with increasing marginal tax rates (i.e., the rate applying to additional income within each bracket) would generate an increasing average tax rate as income rises; this makes the personal income tax a progressive tax. Some personal income taxes are flat rate, with only one tax rate levied on all income (or some component of income).

The brackets and rates are critical in determining the progressivity of the tax and whether it achieves the intended goal of imposing a higher burden on higher-income taxpayers. A more steeply graduated marginal rate schedule leads to a more progressive tax. Even with a flat rate, if there is a zero-bracket amount, then the tax will still be progressive to some degree. If special preferences (i.e., exemptions, deductions, and credits) are widely built into the tax, the actual progressivity may be less than the schedule of increasing marginal tax rates would suggest because higher-income taxpayers are more likely to be able to take advantage of these preferences.

Inflation has an important influence on personal income taxes. The brackets may be indexed to inflation and adjusted each year or on a periodic basis. If not, the average tax rate rises because taxpayers move into higher tax brackets simply because inflation is increasing their nominal income, even if in real terms their income is not rising. This phenomenon is referred to as “bracket creep” and is important in inflationary economies. Other aspects of the income tax set in nominal terms may also be indexed to inflation, like credits, though less frequently.

Schedules of marginal tax rates vary widely across the globe. Typically, the zero-bracket amount is considerably below per capita income in advanced countries but may be higher or even several times per capita income in developing countries, reflecting the perceived inability of most households in

developing countries to be able to afford to pay any significant amount of personal income tax. In 2020, the average in the European Union of the highest marginal tax rate was about 37%, while the average rate for developing countries was somewhat lower. When there are overlapping personal income taxes, such as when a national government and state or province, city, or other subnational entity levies tax, the cumulative tax rate can be considerably higher than the tax rate of any single entity alone. Payroll taxes on wage income, typically used for social insurance systems, add to the overall tax rate on wage income.

The tax wedge (or difference between what the employer pays and what the worker takes home) can be quite considerable. This wedge can lead to significant distortions in behavior, which produces inefficiency in the demand for and the supply of labor and can be a significant deterrent in developing countries for workers to participate in formal sector employment.

Capital income, such as interest, dividends, and capital gains, often have specialized treatment. This can lead to distortions in investment behavior and can erode the income tax base. There are several reasons that economists argue for a lower tax rate on capital income than the top rate on labor income. The relatively greater international mobility of capital makes taxation of capital more distortive and also more difficult. Capital gains are not indexed to inflation and so much of the gain may reflect inflation, especially on assets held for a long time. However, equity objectives suggest at least an equivalent tax on capital income. In practice, many developing countries struggle to tax any capital income except bank interest.

C. Incidence

The consensus among public finance economists is that the personal income tax is borne by the individual taxpayer or their family. In many developing countries and some advanced countries as well, poor tax compliance can result in the tax being borne almost entirely by wage earners employed in the formal sector, often while others, such as informal sector entrepreneurs, independent professionals, and high-wealth individuals, may escape the tax net. Efforts to expand the tax base to fully cover non-salary incomes and to encourage compliance by high-income individuals can shift the tax incidence to those more able to carry the burden.

D. Political Economy of the Personal Income Tax

Often personal income tax reform is motivated by the need to increase revenues, but in some instances, it may also be spurred by the impetus to improve equity or efficiency. The equity debates are often centered on how to tax high-income individuals effectively and at a high enough rate to create meaningful progressivity. Another focus is how to exempt low-income taxpayers and create incentives for them to work, even when they face a phasing out of government benefits related to their income. There is always an appreciation that the middle class is reluctant to shoulder an ever-higher share of the tax burden. The efficiency debates are centered on creating reasonable but not excessive tax burdens that can discourage savings and investment and other productive activities. Every country is unique in terms of what special interests dominate public discussion.

Income tax avoidance, which is when taxpayers use legal means to reduce their tax burden, is one of the most difficult challenges in having a productive income tax. Taxpayers have the incentive to pursue many strategies or exploit loopholes to reduce their tax liability.

Good withholding methods (where taxes are withheld at source as payment toward the eventual tax liability) and third-party reporting, on income paid through employers and financial institutions, are

necessary to have effective income tax enforcement. Small businesses pose a particular problem for administration because they may not keep proper books of account. Tax compliance reflects norms and traditions of a society.

As noted, taxes impose a cost on society over and above what is paid in tax because taxes distort prices and thus people's economic behavior. This cost—deadweight loss in economic terms—can be quite significant under an income tax. Both the deadweight loss and the incentive to avoid and evade tax rise more than proportionately with higher marginal tax rates (Blundell 2016). As a result, personal income tax rates should be set to achieve revenue goals on as broad a base as possible to allow moderate tax rates. When tax bases are narrowed excessively, tax rates must be increased to yield revenue goals. These high tax rates may incentivize taxpayers to double down on income tax avoidance through sophisticated strategies or outright evasion. Highly mobile taxpayers have more options to engage in this form of avoidance either through moving their supply of labor or their capital to lower tax jurisdictions. These options are not generally available to average workers. This undermines equity and may ultimately undermine growth.

By way of summary, we state below some key ideas on design, which reflect the principles of equity, efficiency, and simplicity.

E. Key Ideas on Design

- (i) Individualize the tax because it is generally more efficient than joint taxation. It avoids the higher effective marginal tax rate on secondary earners who are usually women and thereby is more gender neutral and enhances equity.
- (ii) Set a threshold below which taxpayers are not obligated to pay tax on income, either through a general exemption or zero-bracket or a general tax deduction or tax credit. This contributes to progressivity and simplifies administration by removing low-income taxpayers from income taxation.
- (iii) Use a progressive marginal rate schedule, which contributes to vertical equity, but not excessively high marginal tax rates, which contributes to efficiency.
- (iv) Use credits for low-income workers to support equity but also encourage their labor market participation.
- (v) Limit inefficient exemptions, deductions, and credits. The goal is to aim for the broadest possible base, while still allowing some tax preferences that account for taxpayers' different ability to pay, depending on whether they face certain high expenses like for medical care or childcare.
- (vi) Try to align the personal and corporate income tax rates to some degree, to avoid distorting the way that taxpayers earn income.
- (vii) Tax different forms of capital income in a similar manner to avoid distorting markets and creating economic inefficiency.
- (viii) Adopt a simplified regime for small and medium-sized businesses to reduce their compliance costs of paying and to encourage them to pay their taxes.
- (ix) Use withholding taxes, where feasible, and fully utilize reporting of income by employers and financial institutions to achieve higher compliance.
- (x) Ensure that discussion of tax reforms entails broad public input. This will help build a sense of fairness and social acceptance and may encourage better compliance.

F. Payroll Tax

Payroll taxes are typically levied on wage income alone. In most countries, payroll taxes, if they are used, fund public or social insurance programs like a national retirement system. Commonly, these taxes are levied at a flat rate up to a maximum amount or a ceiling of income and the employer and employee may both have to remit taxes, at the same or at different rates. The ceiling is used in payroll taxes that are used to fund public insurance program, in contrast to income taxes, because there is a view that, if the payroll tax supports a future social security benefit, this benefit will be limited. The idea is to create an equivalence between limiting the amount of income subject to payroll tax and the benefits received. The ceiling for taxable income is typically indexed to some measure of inflation. Public insurance programs may also be funded through general revenues, in part or in whole, as is the case in some advanced countries (for instance, the United States funds part of its health insurance program for the elderly through a payroll tax and part through general revenues).

Payroll tax on employees is generally withheld at the same time as personal income tax. Self-employed taxpayers pay both the employee and employer share of taxes, sometimes at a slightly reduced rate. Other public insurance programs may also be funded through payroll taxes, including those for unemployment, health care, and other purposes. Any level of government may make use of these taxes, though typically the national level is where most payroll tax is paid. Some countries integrate the payment of personal income tax and tax to fund national insurance programs.

The political economy of payroll tax reform is usually less complex than for personal income tax because the tax is simpler and because the tax does not involve any final tax assessment for employees. There may be less resistance to this tax because taxpayers perceive a linkage between what they pay and what they will receive in retirement, even if that is not always the case. There has been a distinct upward trend in these taxes over time to support public pensions for retired citizens and their medical and other insurable expenses.

III. CORPORATE INCOME TAX

The corporate income tax is imposed on the net income (i.e., net profit) of corporations. Like the personal income tax, this tax may be imposed at the national and subnational (usually state or province) levels. In advanced countries, corporate income tax yields from 3% to 4% of national output. In developing countries, the tax yield is on the same order of magnitude relative to the economy but comprises a larger share of overall tax revenue.

A. Basic Features of the Corporate Income Tax

The definition of net income for tax and public accounting requirements may differ. In some jurisdictions, the laws and applicable regulations for taxing corporations may differ significantly from those for taxing unincorporated businesses. Some types of corporations may be exempt from tax, including various kinds of nonprofit entities. In addition, certain corporate acts, like reorganizations or mergers, may not be taxed.

Taxable net income is defined as revenue from sales less costs of goods sold, depreciation allowances, amortization, financing costs, overhead costs, and other taxes. Depreciation is the wear and tear of capital (plant, machinery, buildings) during the process of production and is another cost of doing business. Ideally, the corporate income tax should use economic depreciation (i.e., the real depreciation of capital because of its use in production). However, it is difficult to establish this annually, especially for complex operations. Various methods are used, including straight line, accelerated, immediate expensing,

and at loss or realization. Amortization is treated like depreciation, though it applies to intangible assets, such as loan payments.

Most jurisdictions use a “classical” method of corporate tax where corporations are taxed on net income that includes dividends before they are paid, while dividends paid out from this net income to owners of the firms’ capital (e.g., shareholders) are taxed again under the personal income tax. This leads to the argument that corporate income paid out in the form of dividends faces “double taxation.”

The corporate income tax applies to incorporated enterprises in the jurisdiction, foreign corporations doing business in the jurisdiction on income earned there, foreign corporations which have a permanent establishment there, or corporations deemed to be resident for tax purposes in the jurisdiction. Most corporate income taxes distinguish foreign corporations from domestic corporations for tax purposes.

Some corporations have activities in many countries. The place of headquarters is called the home country, while others are called the host countries. Most countries negotiate double tax treaties with major trade partners and others, to avoid double taxation in the host and home country.

Most corporate income taxes require that corporations file an annual income tax return. Some corporate income taxes require that taxpayers self-assess tax and others require the government to make an assessment for tax to be due, though most are moving toward self-assessment. Estimated tax payments may be required on a monthly or quarterly basis. Final payment is due with the annual corporate tax return. Corporations may also be required to withhold tax on dividends, especially if shareholders are foreigners and, otherwise, are not subject to tax in the country where the income originates.

B. Rates, Treatment of Losses, Tax Incentives, and Transfer Pricing

The corporate tax is generally levied using only one rate that applies to all forms of income. However, some countries apply different rates to corporations in different sectors or for certain activities, based on assets or other financial characteristics of the firm, or a graduated system based on brackets of income. Corporate income tax rates vary widely by country, leading some corporations to try to shield income from tax by creating offshore subsidiaries or to relocate headquarters or operations to countries with lower tax rates. They may also refrain from repatriating income to the home country.

Corporate income tax rates have been declining since the 1980s all over the world (Hebous 2021). Most countries have a tax rate below 30%. The most common tax rate is between 20% and 25%. Several countries, mainly small island countries, have no corporate income tax and are known as tax havens.

Corporations can be involved in several types of economic activities through various subdivisions of the corporation. These activities may even include those that are considered for profit (or taxable) and those that are considered nonprofit (or non-taxable, in countries that allow this distinction). This leads to more complex tax situations because the corporate income tax needs to have rules for how the different components of income or related entities are taxed.

Most corporate income taxes allow a loss offset, which is a reduction of taxable income for losses against other income. Many corporate income taxes allow the offset only against activities that are similar (e.g., a manufacturing unit against another). The loss incurred in 1 year may be allowed against profits in an earlier or later period through loss “carry backs” and “carry forwards.” This provision is an important way to encourage appropriate risk-taking. Some corporate income taxes provide a means for a group of related corporations to transfer losses, credits, or other taxable components within members of the group.

An important issue in an international context is the setting of prices charged by related parties, such as between a corporate subsidiary and its parent, for goods, services, or the use of property; so-called “transfer prices.” Transfer prices can be a source of abuse when “artificial” prices, which are determined outside of a formal market, are used to shift profits from a higher taxed jurisdiction to a lower taxed jurisdiction. For instance, if a subsidiary in a high-taxed country purchases inputs, it may inflate the price it paid for the inputs when transferring them to the parent in a low-taxed country so that the corporation’s profits in the high-taxed country are artificially reduced. To combat such practices, governments often include transfer pricing provisions in their tax laws that allow tax authorities to adjust the prices used by companies.

Tax incentives under the corporate income tax are quite common. They can be used to encourage incremental investment, employment, and production. Tax incentives can take the form of investment allowances or deductions, including accelerated deduction or full expensing, investment tax credits, and tax rate reductions, including a full tax holiday. Research on tax incentives suggests that they are not cost effective because the revenue loss may exceed the tax gain on the new activity undertaken in response to the tax incentive. They distort investments and lead to a loss of equity and transparency. Tax incentives mean that, to sustain or strengthen government revenues, higher taxes must apply to other activities. Other non-tax factors such as market competitiveness, barriers to entry, regulation, transport and utility prices, skilled labor availability, and stability of the political and economic and fiscal system, are often more important to corporations in making investment decisions.

C. Incidence

Corporate or business income tax incidence is extremely complex, and there is little agreement among tax economists as to who really bears the burden of the tax. It is a tax on capital income, but capital can move from place to place to take advantage of both market conditions and tax rates. The general finding is that the tax is a tax primarily on corporate capital. However, the corporate income tax may be shifted in part to workers or to corporate products.

D. Political Economy of the Corporate Income Tax

The political economy of corporate income tax reform is complex. Corporations have very different sales and capital structures and varied presence in different countries. Thus, many features of the tax impinge differently on them.

E. Key Ideas on Design

- (i) Set a corporate income tax rate that fosters a competitive environment for businesses, when compared to the rates and key provisions in other countries.
- (ii) Set depreciation schedules that reflect economic depreciation as much as possible.
- (iii) Avoid granting tax incentives. If tax incentives are used, they should be accounted for, evaluated on a regular basis, and publicly reported. Tax incentives should not differentiate among industries. Oversight and granting tax incentives allowable by law should be centralized in the ministry of finance.
- (iv) Develop legal provisions that ease the compliance burden for small enterprises.
- (v) Provide tax and customs administrations legal and regulatory authority to minimize transfer pricing abuse.

IV. PROPERTY AND WEALTH TAXES

A. Property Taxes

Property and land taxes on property and land are among the oldest forms of taxation. Although property and land taxes are usually a minor source of central government revenue, they often constitute a larger source of funding for local public services. In 2018, the average contribution of property taxation in OECD countries was about 2% of gross domestic product (GDP), while the corresponding average for developing countries is negligible.⁵ Sound reforms can add this tax as an important component of a developing country tax system.

There are three basic forms of property taxation (Stotsky and Yucelik 1995): (i) that based on the rental value of the property, i.e., the amount of rent that would be paid for this property in a year; (ii) that based on the capital value of the land and improvements or how much it might sell for; or (iii) that based on the site (or land) value.

Accurate assessment of property and land is critical to a well-functioning tax and requires a property market in which property is regularly being bought and sold. The purpose of assessment is to determine the fair market value or rental of property. Urban areas tend to have active markets in property, making accurate assessment easier than in rural areas. Owner-occupied property that is neither rented nor sold regularly poses a distinct valuation problem, as does business or commercial property and government devise methods for doing this valuation using comparable properties.

In practice, the assessed value of a property tends to be set below its fair market value because of various tax preferences or because assessment methods are not based on full property valuation (Stotsky and Yucelik 1995). In environments of high property price or general price inflation, without regular reassessment, the tax base erodes leading to worse revenue collections.

An effective and equitable implementation of the property tax requires information on all property and unimproved land, including physical size and boundaries, ownership, and the value of land and structures. This information is obtained from a reliable set of titles, ownership records, and well-done cadastral surveys. Often, such information is lacking in developing countries, which is one key reason these taxes remain so little used. In the absence of a reliable cadaster, approximations may be used but can lead to administrative challenges.

Property taxation can be justified because of its revenue potential, it is an effective tax on wealth, and may be less distorting and more transparent than some other forms of taxation. Some additional benefits are its ability to capture the value of public infrastructure investments, promote more efficient use of land, help to stabilize volatile urban property prices caused by rapid urbanization, and to support local government fiscal autonomy and governance reform. Generally, urban areas have more success in using property taxes than rural areas.

B. Wealth Taxes

Wealth taxes are another way of taxing property, with tax applied to total financial and nonfinancial wealth or a subset of wealth like financial wealth. Taxation of all forms of wealth is rare, but many countries tax immovable property (and certain movables like vehicles), inheritances, and transfers of

⁵ OECD. 2021a. *Revenue Statistics*. Paris. Comparative tables (<https://data.oecd.org/tax/tax-on-property.htm>).

assets (including gifts). Taxation of wealth in all forms raises between 1% and 4% of GDP in advanced countries and is little used in most developing countries.

Taxing wealth reduces the returns (after tax) to savings, seen as necessary for capital accumulation, and high-wealth individuals generally have greater mobility of themselves or their capital, deterring many countries from taxing wealth.

C. Incidence and Political Economy

Property or wealth tax incidence is mostly borne by the property owner or the owner of the asset. Increases in property or tax on net wealth are often capitalized in the value of the property or the assets. If property tax rates are increased, the value of property is likely to fall nearly proportionately. The concentration of wealth in politically connected people contributes to a difficult political economy of imposing property and wealth taxes.

V. VALUE ADDED TAX

A VAT is a broad-based tax applied to the sales of goods and services, levied at multiple stages as a good or a service is sold (Ebrill et al. 2001). For this reason, it is sometimes referred to as a general sales tax. Currently, it is used in one form or the other in 170 countries and typically accounts for at least one quarter to one third of tax revenues in those countries. Some large federations also apply the VAT at the subnational level (e.g., Canada, Brazil, and India). The only major country without a VAT is the United States, where most states instead use the retail sales tax. The VAT has become a popular tax because of the relative ease in administering it compared to an income tax and its ability to produce high revenues even in countries with inadequate tax administrations.

A. Basic Features of the Value-Added Tax

Countries with a VAT almost exclusively use an invoice-credit method. The tax is collected at every stage of a production chain. For example, in the sale of bread, VAT may be collected on importation of inputs like wheat, and then at the manufacturing, wholesaling, and retail stages. Taxpayers pay tax on their sales price but get credit for taxes paid on inputs. For example, a bread retailer, subject to a 15% tax, sells the bread for \$10 and pays \$1.50 in tax on its sales. It has purchased inputs of \$5, on which VAT was paid at 15%. Thus, it has a credit tax of \$0.75 for tax on its purchased inputs. It effectively pays tax on its value added of \$5 at the 15% rate, yielding the remaining \$0.75 in tax.

A key advantage of the invoice-credit VAT is that the collection at multiple stages has a self-enforcing property. The credit claimed by one seller on its purchased inputs should match the tax paid by the seller of the input. By matching these claims from the two sellers, neither of whom knows what the other is claiming, the tax administration has a ready means to spot tax evasion (or even mistakes on the part of the taxpayer). The paper trail of the invoice credit system makes audit easier than the income tax.

The main disadvantage of a retail sales tax in lieu of a VAT is that the retailer is the weakest link in the collection of tax because many are small and do not keep accurate records or provide receipts to their customers. As a result, it has been difficult for countries to administer a broad-based retail sales tax at rates higher than about 6%–8%. The VAT can support much higher rates, with 15% being the norm.

The invoice-credit VAT has a nice feature that, if the tax is evaded at any stage by a supplier other than the retailer, the VAT owed by that supplier is not lost. Further up the chain, that value added will be taxed because no input credits will be available for the component of value added on which no tax was paid. If the tax is evaded at the retail level, only the tax on the retailer's value added is lost.

B. Rates, Exemptions, Thresholds

Although a VAT rate of about 15% is common, some countries choose higher or lower rates. Many VATs have multiple rates, which complicate administration because of the nature of the tax collected in stages, unlike an income tax which can accommodate multiple rates more easily. It is better to avoid multiple rates in a VAT, including reduced rates on necessities and higher rates on luxuries. Reduced rates mean that sellers whose products are subject to the reduced rate are more likely to owe less tax on sales than credits claimed on purchased inputs, leading to a demand for a net refund. One of the biggest administrative challenges for a tax administration is assessing the validity of net refunds because it is common for taxpayers to overstate their input tax credits and understate their sales. To avoid luxury rates, it is advisable to use simple excises on the goods or services for which the higher rate is desired, to supplement the VAT on those products.

Some countries exempt sectors such as agriculture and basic foodstuffs on equity grounds (or apply reduced rates). Some “hard-to-tax” services sectors are also often exempted (such as margin-based financial services) as well as sectors such as education, health, social services, residential rents, and sales of used housing. Exempting a sector under a VAT means that the seller charges no tax on its supplies but cannot claim tax on purchased inputs and thus breaks the chain and leads to an unpredictable effective tax rate. Thus, unlike the income tax, exemption does not fully relieve the tax burden but instead only relieves it on sales. If tax on purchased inputs are large, the seller may gain little or no advantage from exemption because the credit for tax on purchased inputs is lost. Exemptions dilute the self-enforcing property of the invoice-credit system and are an inefficient way to achieve equity objectives.

The use of a threshold, usually annual or monthly turnover, below which a seller is not required to register or remit the VAT, reduces both the administrative burden of monitoring numerous small taxpayers as well as the compliance burden on small businesses. It is a good practice to allow firms to register for VAT and issue invoices voluntarily even if their turnover is below the threshold to encourage formalization and a paper trail of invoices. Many countries have turnover tax regimes for small businesses that fall below the main threshold or presumptive tax regimes with the option for voluntary registration in the normal VAT regime subject to maintenance of the proper records and filing of regular returns.

Typical thresholds across the world are discussed in Gendron (2017) and an “optimal” VAT threshold formula is discussed in Keen and Mintz (2004). There is no generally recommended threshold, but a high threshold will leave too many sellers out of the system and will result in large revenue losses and may damage the integrity of the VAT system itself. On the other hand, too low a threshold imposes considerable burden on small businesses and the tax administration while bringing in very little revenue. Countries can use benchmark data from comparator countries to help determine the threshold that would work best for themselves. Recent research from Thailand has shown also that, in situations of high informality, the threshold should be chosen and exemption from registration designed carefully to avoid disincentives for firms to grow and eventually enter the formal economy (Muthitacharoen et al. 2021).

Most VATs are based on a destination principle: imports are taxed, and exports are relieved of tax. Exports are typically zero-rated, which means, like exempt products, that the supplier does not pay tax on sales, but, unlike exemption, the supplier is still allowed to get a refund of tax on purchased inputs. Zero-rating goods and services other than exports is not recommended because it leads to many claims for net cash refunds and is subject to abuse.

It is important for every country to have clear “place of supply/taxation” rules in place to define what goods and services are liable to VAT and at what rate in the case of multiple jurisdictions (OECD 2017). Clear “place of supply/taxation” rules usually stipulate that VAT on goods are due whenever supplies are delivered within a country (usually when the supplier is a registered supplier) or imported into the country (usually for any imports other than personal baggage). They also stipulate that VAT is due on services in the jurisdiction where they are consumed (subject to supplier registration requirements). For business-to-business supplies, it is considered best practice to award tax jurisdiction to where the customer is located.

C. The Political Economy of the Value-Added Tax

The VAT has been often characterized as a regressive tax. The regressivity is thought to stem from the poor spending a higher percentage of their income on consumption taxed under the VAT than the rich, and thus pay a higher percentage of VAT relative to their income than the rich. In practice, however, its regressivity may be somewhat mitigated. Jenkins, Jenkins, and Kuo (2006) find that the poor rely less heavily on taxed goods and services because they buy more of their consumption from unregistered sellers than the rich, and informal or unregistered sellers do not pay output VAT. In addition, the quality of goods and services consumed by the poor is usually inferior to that consumed by the rich, and these goods and services are thus more likely to be produced in and use inputs from the informal sector, which is untaxed. Finally, adjusting the VAT rates and thresholds is not the best way to improve equity. Targeted spending is a far more effective tool for various reasons including that it is more transparent and easier to assess. Efficiently raising revenue so that the government can spend more on goods and services for the poor may do more for equity than trying to make a VAT progressive.

The political economy of sensible VAT reform may be difficult but, if the tax is seen as a bulwark of the tax system, it may be possible to gain consensus on sensible reforms to broaden the base and maintain competitive tax rates. With VAT reform, industries may lobby especially hard to ensure that their products get special treatment in the form of lower VAT rates or exemptions from VAT.

D. Key Ideas on Design

- (i) Set a single standard ad valorem VAT rate levied at about 15%.
- (ii) Minimize exempted sectors and products.
- (iii) Use zero-rating only for exports.
- (iv) Set an appropriate VAT turnover threshold below which firms do not have to pay tax.
- (v) Establish simplified regimes for small enterprises.
- (vi) Design special regimes for services, reverse charges, and withholding.
- (vii) To address equity concerns, exempt some basic foodstuffs, education, schooling, and other such items, but these exemptions should be kept to a minimum.

VI. EXCISE TAXES

Excise taxes (or selective sales taxes) are defined as taxes and related levies and charges on selective goods, services, and activities. Common types include excises to discourage consumption of unhealthy foods, including sugar-sweetened beverages and junk food; to reduce damage to the environment, including taxes on carbon, gasoline or other fuels, and plastics; to curb unhealthy practices, including use of tobacco and drinking of alcoholic beverages (which is why these excises are sometimes referred to as “sin” taxes); to discourage some activities not considered socially useful like gambling; and to capture easy-to-tax or luxury goods (e.g., international air fares, telecommunications, and digital communications).

A. Basic Features of Excises

Excise duties can promote economic efficiency. Whenever all the costs associated with consuming or producing a good or a service are not borne by the buyer and seller (and hence not included in the transaction price), these extra uncompensated or external costs are referred to as negative externalities. A good example of external costs are the pollution and consequent climate change caused by burning fossil fuels. By levying excises on activities that produce adverse side effects, the higher price induced by the tax transfers the cost back to the buyer.

Many of the commodities on which excises are imposed are also relatively demand inelastic (i.e., quantity demanded is relatively unresponsive to price changes) so that it is possible to impose high rates of tax (like that on tobacco or alcoholic beverages), and still increase revenues. Excises applied to more demand-elastic goods or services need to be set a lower rate to avoid excessive loss of the tax base as consumers switch to untaxed products.

The use of excises adds an additional dimension to a tax system, from an efficiency and revenue perspective. If levied on alcoholic beverages, gambling, and the like, excises may also add a regressive element to the tax system because these goods and services figure more prominently in the budgets of lower-income taxpayers.

When these taxes are dedicated or “earmarked” to a particular purpose, they may enjoy greater public support, and this can also lead to a more regular and secure source of money for spending on critical items. Items that sometimes have dedicated excise taxes include transport systems, environmental clean-up, health, and education.

Excise duties are also a relatively easy source of revenue for tax administrations with limited capacity. They can be administered more easily than income taxes and VATs for several reasons. They apply to a limited subset of goods and services. They are often levied on a specific basis (fixed value per unit of the good) based on quantity produced or imported rather than on an ad valorem basis, thus avoiding the need to produce accurate valuation. And they are generally levied at only a single stage, usually at the manufacturing or at the import level. However, excise tax evasion is still a problem, and high rates can induce smuggling from low-taxed to high-taxed jurisdictions.

Some countries levy digital services taxes on cross-border digital service providers (e.g., Australia, France, and the United Kingdom) because of difficulties in collecting corporate income taxes from these digital service providers and platforms under existing laws and because demand is quite responsive to income growth.

Studies have shown that developing countries underuse excises. But some countries, such as the Philippines, have pursued reforms that demonstrate their revenue potential. Estimates of the potential increased revenue range from 1% to 3% of GDP alone for low-income countries (Abdel-Kader and de Mooij 2020, and Cnossen 2020).

B. Political Economy of Excises

Both producers and consumers of excisable goods and services may put up fierce opposition to increases in taxes. The relatively low level of gasoline taxes and the absence of a carbon tax in most countries reflect the strength of this opposition. There is generally less opposition to high taxes on alcoholic beverages and tobacco. It is difficult to keep excises growing with the economy because rates are set in specific terms and require regular review.

C. Key Ideas on Design

- (i) Tax alcohol, tobacco, and unhealthy foods with excises on a specific rather than ad valorem basis because the focus is on taxing the inherent damage-causing potential of these goods and not their price; and to make administration easier.
- (ii) Regularly adjust excises for or index to inflation, if levied in specific form.
- (iii) Use environmental taxes on fossil fuels and plastics. Carbon taxes should also be imposed per unit of emissions at a level directly related to the damages they cause. Possible regressive effects of carbon taxes in low-income countries can be offset through targeted pro-poor spending.
- (iv) Use excises on services and on some high-value luxury goods like automobiles selectively and where appropriate.

VII. TAXES ON INTERNATIONAL TRADE

Taxes on international trade (import or export tariffs or duties) have historically been one of the most widely used and important sources of revenue. Tariffs on imported goods and services are still common in the developing world. Taxes on exports are much less common, except on certain natural resources and foodstuffs. Import tariffs have certain administrative advantages in that there are limited points of entry for goods, and customs administration can secure the goods until payment of taxes. They are typically a principal source of revenue for economies emerging from violent conflict and are commonly used by small, open economies that import most of their consumption goods.

Many developing countries continue to rely excessively on international trade taxes, which can be detrimental to growth. The average international trade tax-to-GDP ratio for developing countries has fallen from about 4% in 1990 to about 2% of GDP today, still well above the ratio in advanced countries.

A. Basic Features of International Trade Taxes

Import tariffs create a bias in favor of domestic production by making imports relatively more expensive vis-à-vis domestic substitutes. In addition to the distortion caused by raising the overall price of goods and services in the market, they also protect higher-cost, less-efficient domestic suppliers. This causes losses in economic welfare for domestic consumers as well as would-be exporters. Tariffs that vary by country or source of imports create further distortions.

Tariff schedules usually apply many rates to goods and services falling into various categories according to a set of internationally used harmonized system of codes. A typical example of the kind of tariff structures proposed during reforms might include import duty levied on an ad valorem basis with three or four rates that are multiples of five; a maximum rate of 20%–25% and a minimum rate of 5% to reduce rate dispersion. In practice, this ideal is almost never realized and far too many rates are used and lead to disputes into which category a good or a service falls.

Today, there are constraints on countries' decisions on import tariff rates. The General Agreement on Tariffs and Trade (GATT), which dates to 1948, and the World Trade Organization (WTO), which was set up in 1994, require that each new member country reach an agreement with other members on the maximum level of tariff for each commodity. This rate is known as the bound rate. A member must commit to liberalizing its international trade regime, and to generally switch to using ad valorem tariffs rather than nontariff trade restriction measures, such as licenses and quotas, because tariffs are more transparent. Applied rates often end up lower in practice than bound rates.

The WTO has two other important principles that govern international trade collectively referred to as the non-discrimination principle: The most-favored nation status requires each member to treat all other countries equally and not discriminate between trading partners, with some permitted exemptions such as free trade agreements between groups of countries.⁶ National treatment requires that a country treat imported goods, intellectual properties, and services the same as locally produced goods and services, once goods or services have entered the domestic market, so charging customs duty is not a violation of national treatment.

Apart from ease of administration, developing countries use tariffs to support new industries. Article XVIII of the GATT on Governmental Assistance to Economic Development allows developing country members, whose economies “can only support low standards of living” and are “in the early stages of development” to maintain higher trade tariffs, the so-called “infant industry” argument. The WTO/GATT rules also permit imposition of “countervailing measures” like “anti-dumping” duties when an exporting country is selling goods below cost (often with the help of export subsidies in the exporting country) and domestic import-competing industries are in danger and are unable to compete because of these “unfair” practices.

While calculating the level of “protection” a trade tariff gives a domestic producer, we have to consider the “effective” protection and not the nominal tariff rate. The effective rate of protection (ERP) is often different from the tariff rate because it is based on how value added is altered by the tariffs. The interested reader is referred to Daly (2016) or Keen (2003) for a more technical discussion of ERP concepts. Second, while duties give domestic producers a price advantage by raising the cost of competing imported goods, at the same time, they penalize domestic producers by raising the cost of imported inputs. Tariffs on imported inputs also directly hurt exporters because they tend to appreciate the domestic currency, by reducing demand for imports and thereby foreign currency, which also hurts exporters.

One category of exemptions from the most-favored nation principle that requires equal treatment of all countries permitted by the WTO is regional integration agreements. Keen (2003) defines two common types of arrangements: (i) free trade areas (FTAs) or preferential trade areas, in which participating countries undertake to eliminate or reduce barriers to trade among themselves without changing their policies about third countries, and (ii) customs unions, which are FTAs in which the members apply a common external tariff to all other countries outside the union but not inside it. Examples of FTAs

⁶ <https://bit.ly/3x5guKZ>.

include the United States–Mexico–Canada Agreement, the European Union, and Asia–Pacific Economic Cooperation; and customs unions including the East African Community, West African Economic and Monetary Union, and Southern African Customs Union.

Many countries also establish free trade zones (FTZs) or similar export processing zones or special economic zones to stimulate foreign direct investment. The WTO does not regulate FTZs directly, but in some cases preferential tax treatment of FTZs by some countries may violate some of the GATT rules and related agreements (Daly 2016).

B. Fiscal Reform in Support of Trade Liberalization

Several studies show that, on average, middle-income countries have managed to increase the overall tax-to-GDP ratio despite declining international trade tax revenues upon liberalization. However, in general, the same is not true of low-income countries, which have faced difficulty in replacing the lost revenue (IMF 2011). Having a VAT in place is not a panacea for replacing lost trade tax revenue, and inadequate preparation, planning, and analysis have made the situation worse for some (IMF 2011). Evidence shows that, on average, trade taxes lost because of reform can be replaced by domestic taxes if backed up by other factors such as development aid flows, and simultaneous increases in other taxes and not just VAT.

C. Political Economy of Tariff Reform

The “import-substituting” and “inward-looking” trade policies that promoted development of “infant industries” behind high tariff walls through the 1950s and 1960s gave way in the 1970s and later years to foreign trade liberalization and “export led” strategies. The key components of these reforms have been (i) the removal of nontariff measures such as quotas and replacing them with equivalent tariffs (This generates revenue for the government while achieving the same objectives.); and (ii) tariff reform aimed at making the tariff reasonable (lower), uniform, and transparent (ad valorem). Simultaneously, effort is required to reform domestic taxes to recover the forgone revenues.

The political economy of tariff reform is intense. For domestic producers in countries that have built a wall for their products, they are reluctant to lose these advantages. The benefits to consumers of lower prices for imported goods and services rarely figure in discussions. The opening up of economies is viewed as critical to the development of internationally competitive industries, and the evidence from East Asia has influenced the political economy in this regard. But the actual steps to reduce tariffs are still subject to considerable domestic competing pressures.

D. Key Ideas on Design

To minimize economic distortions:

- (i) Levy import duties on an ad valorem basis with no more than three or four rates that are multiples of five.
- (ii) Levy a maximum rate of 20%–25% and a minimum rate of 5% to reduce rate dispersion and control ERP.
- (iii) Develop a strategy to substitute other revenue sources for declining trade tax receipts. This can be done as part of an overall medium-term revenue strategy.

VIII. SPECIAL ISSUES

A. Taxation of Extractive Industries

Several countries rely heavily on mining and petroleum for a substantial part of their public revenue—often more than 50% in oil-rich countries and 20% in mining countries (Lemgruber and Shelton 2014). The unique feature of this sector is that government is often the legal owner of these natural resources as well as the taxing authority. Government has the responsibility to maximize the long-term revenue from this sector, share it with non-resource rich provinces and groups equitably, and make sure the sector contributes to the growth of the entire economy and not just the “enclaves” surrounding the extractive industries. At the same time, policy should minimize and compensate for the negative environmental impact of extractive industries. Finally, because these resources are exhaustible in nature, they pose the unique problem, compared to taxation of recurring production or consumption, of optimizing their long-term exploitation.

B. Unique Features of Extractives Taxation

Natural resources exploitation faces pervasive uncertainty, with wide fluctuations in commodity prices and uncertainty regarding the results of exploration and discovery. The high up-front costs give the resource firms a bargaining advantage before investment takes place, which disappears rapidly in favor of the host government the moment investments are made.

Many of these global producers often exercise substantial market power (e.g., large oil multinationals), and smaller, low-income countries are usually unable to bargain hard for fear of losing investment. The sophistication of multinationals is likely to weigh against small and low-income countries’ ability to extract appropriate compensation for exploitation of their natural resources.

C. Political Economy of Extractives

Generally, there is significant political and social conflict over the control and distribution of the revenues from exploitation of these resources. In advanced countries, these resources play a relatively small role in revenues or, where the revenues are significant, their collection and use is well governed (e.g., Norway). However, in many developing countries with significant exhaustible resource revenues, the control and use of these revenues leads to corruption and conflict, often referred to as the “resource curse.” The developing country that has used this revenue well is unfortunately more the exception than the rule.

To promote the open and accountable management of oil, gas, and mineral resources and transparency in the sector, the Extractive Industries Transparency Initiative (EITI) was first launched in September 2002. The EITI has established a global standard requiring “the disclosure of information along the extractive industry value chain from the point of extraction, to how revenues make their way through the government, and how they benefit the public. By doing so, the EITI seeks to strengthen public and corporate governance, promote understanding of natural resource management, and provide the data to inform reforms for greater transparency and accountability in the extractives sector” in the countries that implement the EITI global standard.⁷

⁷ <https://eiti.org/about>.

D. Key Issues of Design

A key design consideration is the ability of the overall tax structure to capture the rents from ownership of mining rights and to properly tax windfall gains from high commodity prices. At the same time, the tax system must provide relief in times of commodity price downturns and not turn away investors or alter their incentives in favor of only the highest grade or yield resources. In practice, most developing countries have failed to collect enough revenue from corporate income taxes and combat base erosion and transfer pricing by multinationals. To summarize here, the main recommended revenue instruments available to governments for taxing this sector are (IMF 2012):

- (i) Use bonus payments on signature (of contracts or leases), discovery, and production. These are single or staggered lump-sum payments triggered by specific events which can be legislated, negotiated, or auctioned.
- (ii) Use per unit or ad valorem royalties based on production value or volume. They provide stable revenue to the government as soon as production begins and are not affected by profit shifting but can raise costs to unprofitable levels when commodity prices fall and may lead to under-exploitation of marginal or higher cost resources (high grading). The norm for royalties for mining are about 5%, with lower rates between 2% and 5% seen in many cases if royalties are turnover based, and higher rates 7.5%–10.0% if profit based.⁸ Depending on the other forms of rent sharing, the normal royalties for petroleum are between 10% and 15%.
- (iii) Apply the corporate income tax at the standard rate or higher, with a sector-specific rate or a variable income tax using the corporate income tax base.
- (iv) Use resource rent taxes, which are meant to capture “rents” or returns earned by a company over and above the minimum required return to stay in business. They are usually calculated as current receipts less all current expenses (both nonfinancial) and imposed only when this cash flow is positive.
- (v) Require dividends from equity ownership. These serve as the equivalent of rent taxes.

E. Gender and Taxation

There are many ways tax reform can contribute to gender equality (Stotsky 1996 and 2020, and Grown and Valodia 2010). The structures and administration of tax systems can favor or disadvantage women through both explicit and implicit bias. Explicit biases in tax systems are laws and regulations that discriminate against women (or, in a few cases, favor women) and are most typically found where taxes are individualized, like the personal income tax or, less frequently, wealth taxes. Implicit biases arise because women and men tend to differ systematically in behavior—in the ways they earn and spend and invest income and wealth.

As examples of explicit bias, some personal income taxes permit certain tax preferences only for male (and more infrequently, female) taxpayers, assign joint business or asset income only to males, and allow only males to have legal standing on tax issues.⁹ Although explicit bias against women is slowly being removed from tax codes throughout the world, it is necessary to ensure, as soon as possible, that tax

⁸ Hogan and Goldsworthy (2010).

⁹ Several Asian personal income tax codes at one time did not permit married women to file taxes in their own name. As an example, in 1991, Malaysia moved from a tax system in which the income of a married woman was attributed to her husband unless she elected for separate assessment to a system in which husbands and wives are treated as separate taxable units (i.e., individual filing). An example of bias in favor of women is found in the Singapore personal income tax, which provides for an additional child allowance for married women with strong academic credentials.

codes end discrimination against women. There is little evidence to suggest that provisions in favor of women have much effect.

Implicit gender bias is more pervasive. It is typically found in the design of personal income taxes. Under a joint filing regime, higher effective tax rates on secondary earners, most often women, is a source of implicit bias. A deduction allowed for unreimbursed work expenses that are predominantly borne by men (for instance, the purchase of tools or uniforms) but not for work expenses that are predominantly borne by women (for instance, the cost of child or elder care), creates an implicit bias.

Explicit bias is not found in goods and services taxes or the corporate tax because these taxes are levied on businesses, not persons. However, implicit bias may still be a consideration. Under the VAT, exemptions for necessities like food, education, health care, and childcare and other basic needs help low-income households, and may be especially valuable to the rising share of such households headed by lone mothers. There may be additional scope to provide favorable treatment of paid childcare or products disproportionately or entirely consumed by women.

F. Tax Expenditures

As we have seen, special preferences are a feature of all taxes, through exemptions, deductions, preferential rates, and special regimes. Corporate tax incentives are a particular concern because they remain so prevalent. There may be a large loss of revenue from these preferences, and they may also be distortionary and inequitable because they leave an unlevel playing field. Countries use tax expenditures in place of direct spending for various reasons, including that they are not subject to regular appropriation and may be less transparent as a form of subsidy.

The resulting loss in revenue compared to the potential revenue that would be collected if there were no special preferences is called a tax expenditure. Any special preference such as deductions and reduced tax rates result in a tax expenditure. No single standard of how to calculate tax expenditures exists, but many ministries or tax administrations around the world have been reporting them, though many other countries are ill equipped to do so. Most recently the Council on Economic Policies and the German Development Institute have produced a Global Tax Expenditure Database, which has the potential to quantify the revenue losses from tax incentives.¹⁰

Centralization of the power to grant tax incentives in the ministry of finance, and regular compilation and publication of all tax expenditures, no matter what the tax, are the best ways to keep them in check, encourage transparency, combat corruption, and impose fiscal control. Many countries must submit a measure of tax expenditures in the annual budget exercise. This is routinely done by most advanced countries and several developing countries (e.g., India).¹¹ Sectoral ministries should not have the power to issue their own tax incentives or preferences.

G. Carbon Taxes

Carbon taxes are imposed on the carbon content of fossil fuels. They increase prices of fossil fuels and electricity, and other products and services that use these fuels. Since they also lower the relative prices of alternative fuel sources, they promote switching to cleaner energy sources. A tax of \$35 a ton on carbon dioxide emissions in 2030 would increase prices for coal by about 100%, electricity 25%, and gasoline 10%, based on their carbon content (Parry 2019). A tax of \$35 would be enough to reduce carbon emission levels to those pledged under the 2015 Paris Agreement in many emerging economies

¹⁰ <https://gted.net>.

¹¹ <https://www.indiabudget.gov.in/doc/rec/annex7.pdf>.

that still use coal heavily, but it may not suffice in others. Carbon taxes have significant revenue potential. A \$35 carbon price (or a per ton tax) would raise between 1% and 2% of GDP.

Carbon taxes are easy to impose and administer and have significant environment- and health-related benefits as well. Carbon pricing can be implemented and administered without much difficulty as an extension of existing fuel taxes (Parry 2021). More than 60 countries already have carbon pricing systems (either taxes or “cap and trade”). Suppose just six jurisdictions adopt the following prices by 2030: the European Union, Canada, the United Kingdom, and the United States carbon price of \$75 a ton; the People’s Republic of China at \$50 a ton; and India at \$25 a ton; and other Group of Twenty countries meet their pledges under the 2015 Paris Agreement. Combined with a more comprehensive mitigation strategy that includes regulation, this is estimated to be enough to keep global warming below the 2°C benchmark (Parry 2021). Not only is this the most practicable and effective way to achieve the climate goals of the 2015 Paris Agreement, but it will also be more effective than alternatives such as the planned carbon border adjustment tariffs (Parry 2021).

Carbon taxes tend to be moderately regressive in advanced economies because households tend to spend a higher share of their income on energy-intensive goods, the lower their income (De Mooij et al. 2021). The incidence in low-income countries may be less regressive where low-income households remain largely in a subsistence economy and gather their own energy resources (e.g., for cooking or heating). If there is public resistance to high carbon taxation, lower-income households can be given a compensating subsidy. Carbon tax revenues can also be used to boost growth and invest in clean technology infrastructure. Using the revenues productively and helping businesses transition to cleaner technologies while mitigating the effect of higher fuel prices on the poor will help reduce resistance.

H. Base Erosion and Profit Shifting, Transfer Pricing, and the Digital Economy

Since the 1920s, international taxation of entities that derive income from multiple countries has been governed by the principle of avoiding double taxation of the same income through treaties. To use the source principle and tax income derived or earned in their jurisdiction, the source or host country must establish some sort of “nexus” or a taxing right, linking income earned and value created by the business to its jurisdiction. The accepted method of doing so since the 1920s has been to stipulate that the host or source country would have a taxing right whenever the business had a “permanent establishment.” The OECD Model Tax Convention lists three types of permanent establishment: a fixed place of business, a construction or project, or an agency. Some examples included in the convention are mines, branches, factories, warehouses, or “places of management.” Proving the existence of a permanent establishment was the first requirement for establishing nexus, or a taxing right for the host or source country. Once a nexus is established, the question of distribution must be solved: how much of the total worldwide income could be attributed to the particular jurisdiction. A central implied feature of the “1920s compromise” is that, theoretically, all income earned by any business would be taxed in some source country or the other, and double taxation would be avoided through tax treaties (Elliffe 2020).

Over time, multinational enterprises began to realize that they could reduce their overall worldwide tax liability by locating offices or subsidiaries in certain lower tax jurisdictions and “shifting” profits solely for tax accounting purposes from high-tax countries to lower-tax ones (Mullins 2020). The existence of several tax havens (countries with very low effective tax rates), often also offering financial secrecy, makes shifting income to low tax jurisdictions relatively easy. Developing countries are encouraged to compete to lower their effective corporate income tax rates to attract inbound foreign investment leading to a “race to the bottom.” The result is that many large and profitable multinationals escape corporate income taxation altogether (Palansky 2019).

In response to this global loss of corporate income tax revenue, the OECD and the Group of Twenty launched the base erosion and profit shifting (BEPS) project in 2013. A program of 15 “actions” were drawn up of which the first action item was to “address the tax challenges of the digital economy.” Four of the actions require that participating countries maintain minimum prescribed standards (if necessary, by amending domestic laws). The cornerstone of these initiatives was to standardize transfer pricing law and practices based on the arm’s length principle. In 2016, an Inclusive Framework was launched as a forum where all countries could jointly deliberate and formulate standards to implement the BEPS project. Member countries are required to adopt the minimum standards required for the four specified action items. At present, the Inclusive Framework has more than 130 members.

The increasing digitalization of all businesses, the growth of digital giants like the FAANG (Facebook, Apple, Amazon, Netflix, and Alphabet/Google) companies and the increasing mobility of capital and jobs has called into question the traditional methods of dealing with international taxation and transfer pricing. A digital business can earn income in a jurisdiction without ever requiring a physical presence in that country. This has the implication that many source countries will no longer be able to tax income from remote activities delivered over the internet and lose substantial corporate income tax revenue. Since the income could easily be relocated to a low tax jurisdiction through various methods, every country would lose revenue. Many countries have considered or imposed “digital services taxes” on these companies in lieu of being able to tax income derived from operations in their countries because of the absence of a nexus. There are growing calls to abandon the century-old framework in favor of a new principle that “profits are taxed where economic activities take place and value is created.”¹² Digitalization has implications beyond income taxation, as it raises “issues regarding the effective value-added taxation of digital services, property rights over private information, and the use of digital technology in tax design and revenue administration” (Dabla-Norris et al. 2021).

Effectively taxing e-commerce and the provision of digital services under the VAT would yield more revenue to Asia and Pacific countries and improve efficiency in the short run. Levying VAT on digital services and e-commerce increases revenue as well as treating foreign and domestic firms equitably, as well as goods and services, thus reducing distortions and enhancing efficiency. The revenue implications for Asia and the Pacific are expected to be higher than the proposed unilateral digital services taxes or even the proposed reallocations under OECD’s “Pillar I” (Dabla-Norris et al. 2021).

The second issue is that, despite the efforts of the BEPS project and related initiatives, many traditional multinationals still face very low effective tax rates on their worldwide income and manage to escape taxes everywhere. The United States introduced two legal provisions in 2017 as part of the Tax Cuts and Jobs Act called the Global Intangible Low-Taxed Income and the Base Erosion and Anti-Abuse Tax in partial recognition of the fact that existing international taxation and transfer pricing laws need to be supplemented by extra measures to protect corporate income tax revenues.

In recognition of the need to address the unique challenge of taxation of the digital economy and the need to prevent unilateral action by countries imposing digital services taxes, as well as the need to supplement transfer pricing laws, the OECD has proposed a new initiative (Pillars I and II).¹³

Pillar I (the old action item I under BEPS) seeks to address the problems of taxing highly digitalized businesses and other large businesses with substantial cross-border activity by allocating taxing rights to countries where income is generated without requiring physical presence of the multinational

¹² OECD (2015).

¹³ OECD (2021b).

enterprises in that jurisdiction. The proposal includes rules to calculate and allocate residual business profits to market jurisdictions where income is earned through a formula or formulary apportionment.

Pillar II (supplementing action items 2–15) proposes several methods to establish a global level of minimum taxation of multinationals by their home and host countries. It comprises four rules that intend to ensure that, whenever the global effective tax rate on an enterprise is below some specified threshold rate, a tax can be imposed to bring it up to that specified level. It includes rules to automatically amend existing tax treaties that rule out such provisions.

Some 136 countries, representing about 90% of the global economy, have agreed to a major reform of the international tax system recently that seeks to ensure that large multinational enterprises pay at least 15% tax on a portion of their corporate profits from 2023 onward. It is expected that this agreement will help reduce tax competition between countries seeking to attract investment by offering low corporate income tax rates. Under the Pillar I agreement, it is estimated that the rights to tax corporate profits worth up to US\$150 billion may be reallocated to those countries where profits are earned. Under Pillar II, the 15% minimum rate on a portion of the profits of the largest multinationals is estimated to generate about US\$150 billion in additional global tax revenues annually.¹⁴ However, it remains to be seen exactly how much additional revenue will flow to developing Asia because of these reforms, and whether national parliaments or legislatures will agree to adopt them. In some cases, the largest “market jurisdictions” where incomes are earned also happen to be advanced nations.

I. Behavior and Tax Compliance

A new and emerging area of inquiry in tax policy is using behaviorally motivated solutions to address complex tax policy problems, most often in the field of tax compliance. Behavioral solutions to tax compliance can be a very cost-effective way of ensuring compliance and generating government revenue. These strategies can be grouped under several categories: (i) providing clear, timely, and adequate information to make it easier to comply, which can include in-person visits, email campaigns, simplified messaging and “tax fairs;”¹⁵ (ii) emphasizing “tax morale” and appealing to citizens’ sense of duty, exemplary citizenship, and honesty; (iii) updating citizens’ knowledge about the costs of evasion to emphasize deterrence, including providing likely evaders audit and enforcement statistics or sending letters to taxpayers saying that they were being monitored and may be audited; and (iv) providing incentives such as social recognition and monetary rewards to taxpayers to comply.

A body of evidence is now accumulating on these strategies. Some studies have shown that tax compliance and active participation in democratic processes improve when it is shown that others are paying taxes and that public money is well used (World Bank 2021). A field experiment carried out in 2018 in Indonesia’s Java district on a sample of 18,000 small and medium-sized enterprises divided the firms into three groups. Those that received (i) simplified messages “providing essential information about the tax regime in a salient way using clear and simple language” alone, (ii) salient information plus information on the provision of public goods financed by tax revenue, and (iii) salient information plus eight messages with messages emphasising deterrence and reminding firms about possible fines and penalties (World Bank, 2021). The experiment resulted in improved payment and compliance rates among firms that received the messages, as well as increased revenues. The deterrent messages were most effective in improving compliance among small and medium-sized enterprises, while the messages

¹⁴ OECD (2021c).

¹⁵ BBC News (2010).

with only salient information increased the amount paid by compliant firms on average. The experiment resulted in a gain in revenue equal to 37 times the cost of the intervention.

Many countries promote good compliance by presenting public awards to taxpayers with a good record of compliance. In Bangladesh, a tax administration initiative emphasizing information sharing among firms increased VAT payments (World Bank 2021). A similar initiative to send a text message to noncompliant firms letting them know their names would be published also increased compliance (World Bank 2021).

Behavioral research has recently focused on other areas such as the deterrent effect of third-party reporting of tax information to the tax authority, and on the elasticity of taxable income with respect to the tax system design. The deterrent effect of the VAT “paper trail” has been established in several experiments for business-to-business sales (Pomeranz 2015). To combat the weakness of a lack of a paper trail at the final or business to consumer stage, novel methods such as a lottery for taxpaying consumers have shown promising results (Pomeranz and Vila-Belda 2019). Studies have also established that, in countries with poor tax enforcement and large propensities to evade tax, large and abrupt changes in tax rates can increase evasion substantially. A study in Pakistan showed that, when tax rates were increased significantly on partnership firms relative to other legal entities, many affected firms either changed their legal structure or moved into informality, resulting in a fall in revenues despite a higher tax rate.

IX CONCLUSION

This primer has touched upon the range and complexity of issues that are required in tax policy reform. Good reforms are difficult to achieve. They need to take account of revenue needs and political economy considerations; and should be based on sound economic, governance, and administrative principles. In practice, it is hard to achieve a comprehensive tax reform that meets all these criteria. Each main tax presents its own technical complexity and difficulties. The differences are important to recognize.

In general, Asia and Pacific tax systems need to increase reliance on well-structured personal income taxes, especially as growing income inequality makes strengthening the potentially progressive part of tax systems a priority. Corporate income taxes should also continue as a mainstay of tax systems and may benefit from recent international initiatives, setting minimum tax rates and apportioning revenues based on where consumers reside and use digital services. VATs are likely to remain as another mainstay, and countries should make efforts to structure this tax in accordance with good principles of design, including minimizing unnecessary rate differentiation while allowing for a limited number of exemptions. Excises should continue to play a critical role in enabling significantly higher indirect taxation on some items for a variety of purposes. Import duties have already been mainly phased out in most countries and, in those where they continue to play a role, strengthening domestic sources of taxation should be a priority. Property and other wealth taxes remain underused and should play a role in raising the progressivity of tax systems and providing a more robust source of taxation for subnational jurisdictions. We summarize some key aspects of the major taxes in the table in relation to three major principles of design: efficiency, equity, and simplicity.

Concise Summary of Properties of Major Taxes

Tax	Efficiency	Equity	Simplicity
Personal income tax	Low (related to increasing marginal tax rates)	High (also related to increasing marginal tax rates)	Low (high information needs, withholding at source, and third-party reporting)
Corporate income tax	Low (difficult to capture economic concept of profit)	Moderate (statutory incidence falls primarily on capital income, but burden may shift to consumers and workers)	Moderate (often complex, but collection may focus on a small number of high-value taxpayers)
Value-added tax	Moderate (a uniform and moderate rate is less distortionary of consumption decisions)	Moderate (generally regressive with uniform rate)	Moderate (invoice credit approach offers advantages, but it becomes more difficult to administer if poorly designed)
Excises	Moderate (can help address externalities and often levied on products with less elastic demand)	Moderate (like general consumption taxes, depends on how applied)	High (but can require accurate valuation and adjustment of per unit rates, adding to complexity)
Import duties	Low (discriminates between domestic and foreign producers, particularly inefficient in the presence of high and variable rates)	Moderate (like general consumption taxes, depends on how applied)	Moderate (complex with non-uniform rate structure and in the presence of smuggling, valuation, or determination of content problems)
Property tax	High (real estate is highly immobile in the short and medium term)	High (assuming valuations are based on accurate records and market transactions)	Moderate (requires up-to-date records and valuations)

Source: Authors.

REFERENCES

- Abdel-Kader, Khaled and Ruud A. De Mooij. 2020. Tax Policy and Inclusive Growth. *IMF Working Paper* No. 20/271. Washington, DC: International Monetary Fund (IMF).
- Ahmed, Nasiruddin. 2013. Improving Tax Compliance in Bangladesh: A Study of Value-Added Tax. *IGS Working Paper Series* 11/13. Dhaka: BRAC University.
- Ahmed, Sadiq, and Christopher Heady (discussant). 2020. Institutional Dimensions of Tax Reforms in Bangladesh. In S. Raihan and F. Bourguignon, eds. *The Bangladesh Institutional Diagnostic*. Oxford: Oxford Policy Management.
- Alt, James, Ian Preston, and Luke Sibiet. 2010. The Political Economy of Tax Policy. In Adam, S., T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Myles, and J. Poterba, eds. *Dimensions of Tax Design: The Mirrlees Review*. Oxford: Oxford University Press.
- Arnold, Brian. 2013. The Process for Making Tax Policy: An International Comparison. *Canadian Tax Journal* 61, 4. 989–1009.
- BBC News. 2010. Amazing Success of Bangladesh's Tax 'Funfairs'. <https://www.bbc.com/news/world-south-asia-11436554>.
- Blundell, Richard. 2016. *Labor Supply and Taxation*. Oxford: Oxford University Press.
- Cnossen, Sijbren. 2020. Excise Taxation for Domestic Resource Mobilization. *CESifo Working Paper* No. 8442. Munich: CESifo.
- Dabla-Norris, Era, Ruud de Mooij, Andrew Hodge, Jan Loeprick, Dinar Prihardini, Alpa Shah, Sebastian Beer, Sonja Davidovic, Arbind Modi, and Fan Qi. 2021. Digitalization and Taxation in Asia. APD-FAD, DP/2021/017. Washington, DC: IMF.
- Daly, Michael. 2016. Is the WTO a World Tax Organization? A Primer for WTO Rules for Policy Makers. *Technical Notes and Manuals*. Washington, DC: International Monetary Fund.
- De Mooij, Ruud, Alexander Klemm, and Victoria Perry, eds. 2021. *Corporate Income Taxes under Pressure: Why Reform Is Needed and How It Could Be Designed*. Washington, DC: IMF.
- Di John, Jonathan. 2006. The Political Economy of Taxation and Tax Reform in Developing Countries. *UNU-WIDER Research Paper* No. 2006/74. UNU-WIDER, United Nations University.
- Ebrill, Liam, Michael Keen, Jean-Paul Bodin, and Victoria Summers. 2001. *The Modern VAT*. Washington, DC: IMF.
- Elliffe, Craig Macfarlane. 2020. Assessing the Flaws in the 1920s Compromise in the Times of the Burgeoning Digital Economy and the Great Lockdown. *Bulletin for International Tax* 2020.
- Gendron, Pierre-Pascal. 2017. Real VATs vs the Good VAT: Reflections from a Decade of Technical Assistance. *Australian Tax Forum*. 32, 2. 257–282.
- Grown, Caren and Imraan Valodia. 2010. *Taxation and Gender Equity: A Comparative Analysis of Direct and Indirect Taxes in Developing and Developed Countries*. New York: Routledge.
- Hassan, Mirza and Wilson Prichard. 2016. The Political Economy of Domestic Tax Reform. In Bangladesh: Political Settlements, Informal Institutions and the Negotiation of Reform. *The Journal of Development Studies* 52, 12. 1704–1721.
- Hebous, Safik. 2021. *Has Tax Competition Become Less Harmful?* Chapter 6, in R. De Mooij, A. Klemm, and V. Perry, editors. *Corporate Income Taxes under Pressure: Why Reform Is Needed and How It Could Be Designed*. Washington, DC: International Monetary Fund.

- Hogan, Lindsay and Brenton Goldsworthy, 2010. *International Mineral Taxation: Experience and Issues*. In Daniel, P., M. Keen and C. McPherson, eds. 2010. *The Taxation of Petroleum and Minerals: Principles, Problems and Practice*. New York: Routledge.
- IMF. 2011. *Revenue Mobilization in Developing Countries*. Washington, DC.
- IMF. 2012. *Fiscal Regimes for Extractive Industries: Design and Implementation*. Washington, DC.
- Jenkins, Glenn P., Hatice P. Jenkins, and Chun-Yan Kuo. 2006. *Is the Value Added Tax Naturally Progressive?* *Queen's University Economics Department Working Paper No. 1059*. Ontario: Queens University.
- Junquera-Varela, Raul Felix, Marijn Verhoeven, Gangadhar P. Shukla, Bernard Haven, Rajul Awasthi, and Blanca Moreno-Dodson. 2017. *Strengthening Domestic Resource Mobilization: Moving from Theory to Practice in Low- and Middle-Income Countries*. *Directions in Development*. Washington, DC: World Bank.
- Keen, Michael, ed. 2003. *Changing Customs: Challenges and Strategies for the Reform of Customs Administration*. Washington, DC: IMF.
- Keen, Michael and Jack Mintz. 2004. The Optimal Threshold for a Value-Added Tax. *Journal of Public Economics* 88, 3-4. 559–576.
- Keen, Michael and Joel Slemrod. 2021. *Rebellion, Rascals, and Revenue: Tax Follies and Wisdom through the Ages*. Princeton: Princeton University Press.
- Lemgruber, Andréa and Scott Shelton. 2014. *Revenue Administration: Administering Revenues from Natural Resources: A Short Primer*. *IMF Technical Notes and Manuals* 14/02. Washington, DC: IMF.
- Mirrlees, James. 1971. An Exploration in the Theory of Optimal Income Taxation. *Review of Economic Studies* 38. 175–208.
- Mullins, Peter. 2020. *International Taxation and Developing Countries*. CGD Policy Paper 166. Washington, DC: Center for Global Development.
- Muthitacharoen, Athiphat, Wonma Wanichthaworn, and Trongwut Burong. 2021. VAT Threshold and Small Business Behavior: Evidence from Thai Tax Returns. *International Tax and Public Finance* 28. 1–34.
- Organisation for Economic Co-operation and Development (OECD). 2015. *Examples of Successful DRM Reforms and the Role of International Co-operation*. Discussion Paper. Paris.
- OECD. 2017. *International VAT/GST Guidelines*. Paris.
- OECD. 2021a. *Revenue Statistics*. Paris.
- OECD. 2021b. *OECD/G20 Base Erosion and Profit Shifting Project. Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy*. Paris.
- OECD. 2021c. *International Community Strikes a Ground-breaking Tax Deal for the Digital Age*. 10 August. <https://www.oecd.org/tax/international-community-strikes-a-ground-breaking-tax-deal-for-the-digital-age.htm>.
- Palansky, Miroslav. 2019. *How Multinationals Continue to Avoid Paying Hundreds of Billions of Dollars in Tax*. UNU-WIDER blog.
- Parry, Ian. 2019. Putting a Price on Pollution. *Finance and Development* 56, 4. 16–19.
- Parry, Ian. 2021. *Five Things to Know About Carbon Pricing*. *Finance and Development*. 10–11 September.
- Pomeranz, Dina and Jose Vila-Belda. 2019. Taking State-Capacity Research to the Field: Insights from Collaborations with Tax Authorities. *Annual Review of Economics* 11. 755–781.

- Princen, Savina. 2016. Political Economy of Tax Reforms—Workshop Proceedings. *European Economy-Discussion Papers 2015-025*. Directorate General Economic and Financial Affairs (DG ECFIN). European Commission.
- Ramsey, Frank. 1927. A Contribution to the Theory of Taxation. *Economic Journal* 3. 47–61.
- Shome, Parthasarathi and IMF. 1995. Tax Policy Handbook. Tax Policy Division, Fiscal Affairs Dept. Washington, DC.
- Shome, Parthasarathi. 2021. *Taxation History, Theory, Law and Administration*. Switzerland: Springer, Cham.
- Shoven, John B. and John Whalley. 1984. Applied General Equilibrium Models of Taxation and Trade. *Journal of Economic Literature* 22. 1007–1051.
- Stiglitz, Joseph E. and Jay K. Rosengard. 2015. *Economics of the Public Sector*. New York: W.W. Norton and Company.
- Stotsky, Janet G., and M. Zuhtu Yucelik. 1995. *Taxation of Land and Property*, in Shome and International Monetary Fund. *Tax Policy Handbook*. Washington, DC: International Monetary Fund.
- Stotsky, Janet G. 1996. Gender Bias in Tax Systems. *IMF Working Paper No. 99*. Washington, DC: IMF.
- Stotsky, Janet G. 2020. *Using Fiscal Policy and Public Financial Management to Promote Gender Equality: International Perspectives*. New York, Routledge.
- World Bank. 2021. *Behavioral Insights for Tax Compliance*. Mind, Behavior and Development Unit. Washington, DC.