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Tax Policy and Inclusive Growth

by Khaled Abdel-Kader and Ruud De Mooij

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I N T E R N A T I O N A L M O N E T A R Y F U N D

IMF Working Paper

Institute for Capacity Development and Fiscal Affairs Department

Tax Policy and Inclusive Growth

Prepared by Khaled Abdel-Kader and Ruud de Mooij¹

Authorized for distribution by Vitor Gaspar and Valerie Cerra

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Abstract

This paper discusses the theory and practice of tax design to achieve an efficient and equitable outcome, i.e. in support of inclusive growth. It starts with a discussion of the key principles from tax theory to guide practical tax design. Then, it elaborates on more granular tax policy, discussing key choices in the structure of the personal income tax on labor and capital income, taxes on wealth, the corporate income tax, and consumption taxes. The paper concludes by highlighting the political economy considerations of the issues with concrete recommendations as to how to implement tax reform.

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CONTENTS	PAGE
Abstract.....	2
I. Introduction	4
II. Taxation Principles.....	6
III. Taxation of Labor Income	10
IV. Taxation of Capital Income	15
V. Taxation of Wealth.....	18
VI. Corporate Income Taxation	22
VII. Consumption Taxation	26
VIII. How to make it happen?.....	29
FIGURES	
Figure 1: Composition of Tax Revenue by Region.	5
Figure 2: Redistributive Impact of Taxes and Transfers in Advanced Economies	5
Figure 3: Personal Income Tax Threshold.....	12
Figure 4: Countries with Flat Income Tax Rates	14
Figure 5: Average Top Personal Income Tax Rates	15
Figure 6: Income and Wealth Shares	19
Figure 7: Taxes on Wealth.....	19
Figure 8: Share of Corporate Income Tax	24
Figure 9: Combined Corporate Tax Rates.....	24
REFERENCES	
References.....	33

I. Introduction

Taxation is at the heart of the inclusive growth debate. Taxes are known to affect employment and investment and are indeed found to have important implications for economic growth, as measured by GDP. Yet, taxes are also known to affect much broader aspects of social welfare. For instance, they play a pivotal role in any redistribution that takes place through the state's budget; and taxes have implications for polluting behaviors and thus for environmental quality and public health. Social welfare concepts – which form the heart of public finance theory – encompass the inclusiveness of growth by accounting for such values.

Taxes are ultimately a means to an end, namely to finance public spending. Those expenditures can in turn affect inclusive growth. For instance, productive spending on education and infrastructure are important for economic growth; and redistributive transfers in cash or in kind are vital for inclusion. Any analysis of inclusive growth should therefore in principle look at the joint impact of taxes and public expenditures. The focus in this paper is, however, on taxation.

Irrespective of the optimal tax level—which is a contentious issue—there is widespread consensus that a minimum level of tax revenue is necessary for countries to ensure that the state can provide its essential functions conducive to inclusive economic growth. Gaspar et al. (2016a) find, for instance, that, once the tax-to-GDP level reaches around 12¾ percent, economic growth increases sharply and in a sustained manner over the following decade. Still, tax-to-GDP ratios are generally low in developing countries. Indeed, whereas tax ratios in advanced economies (excluding social contributions) average around 25 percent of GDP, those in developing economies are often below 15 percent (Figure 1)—and in some cases below the tipping point estimated by Gaspar et al. Higher tax ratios are needed in these countries to boost growth, as well as to support inclusion through public spending.

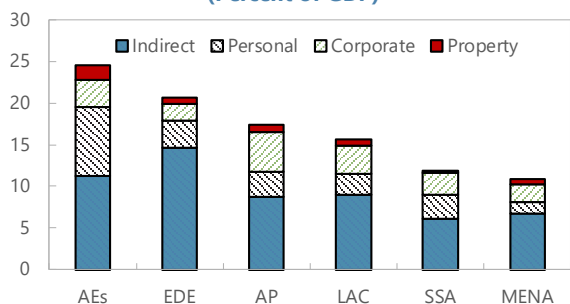
The composition of taxes is also important for growth and inclusion. For instance, empirical studies have established a so-called growth-ranking of taxes, with corporate and personal income taxes found to be more harmful for growth than consumption and property taxes.² Opposite results are found for the ranking on inequality, i.e. income taxes tend to reduce inequality more than consumption taxes. This suggests a trade-off between efficiency and equity in choosing the tax composition. The composition of taxes varies considerably between advanced and developing economies, with a notably larger role for personal income taxes and property taxes in advanced economies (Figure 1).

In advanced economies, tax-benefit systems achieve significant redistribution. This can be inferred from the difference in the Gini coefficient between market incomes and disposable incomes, i.e. the difference after applying income taxes and social benefits (Figure 2). The average reduction in the Gini coefficient is 18 percent, of which around one quarter is due to progressive taxation and three quarters are due to social benefits. Hence, income

² Results are not always robust, however, e.g. the ranking of the corporate tax varies across studies.

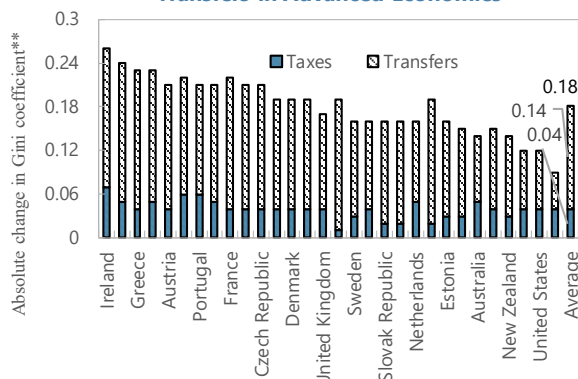
redistribution comes mainly from the spending side of the budget.³ While analysis for developing countries is scarcer, the redistributive impact of fiscal policy is generally much smaller than in advanced economies due to lower social transfers and lower income taxes.

Figure 1. Composition of Tax Revenue by Region, 2018 (Percent of GDP)



Source: IMF staff calculations.
 AEs = Advanced Economies (39)
 EDE = Emerging and Developing Europe (12)
 AP = Asia and Pacific (38)
 LAC = Latin America and Caribbean (32)
 SSA = Sub-Saharan Africa (49)
 MENA = Middle East and North Africa (20)

Figure 2. Redistributive Impact of Taxes and Transfers in Advanced Economies*



Source: OECD Income Distribution Database.
 * Data as of 2015 or latest available.
 ** Calculated as Gini coefficient for market income minus Gini coefficient for disposable income.

The debate on taxation and inclusive growth has recently received ample interest from commentators and politicians. For instance, Thomas Piketty’s book “Capital in the 21st Century” from 2013 on the growing wealth inequality in advanced economies has provoked a wave of calls for more progressive tax systems, including, for instance, through taxes on wealth. Similar calls for progressive taxes are made in a recent book by Martin Sandbu on “The economics of belonging,” which discusses political-economy aspects of state intervention. In the United States, candidates for the 2020 Democratic Presidential nomination proposed wealth taxes on millionaires; and a group of 19 “ultra-wealthy” Americans signed an open letter in support of it.⁴ Issues are controversial, however, and economists have downplayed expectations in the revenue-raising ability of such taxes (e.g. due to difficult valuation problems and widespread avoidance and evasion) or pointed to possible distortions for economic growth. Taxation and inclusive growth has also received new impetus from the COVID crisis. Indeed, questions arise on how social cohesion can be sustained through enhanced inclusion of those most affected—which are generally the less affluent. Calls for specific levies on wealth, top income earners and profitable businesses abound to cover the costs of fiscal interventions during and after the pandemic. At the same time, tax policies should be designed so as not to impede growth during the recovery phase.

³ Note that incomes are generally measured on an annual basis. A significant fraction of the redistribution in annual incomes reflects redistribution over the lifecycle, e.g. through pensions or social insurance. Bovenberg and Sorensen (2012) estimate this share at three quarters in Denmark. Only one quarter would thus represent redistribution from the lifetime rich to the lifetime poor.

⁴ <https://medium.com/@letterforawealthtax/an-open-letter-to-the-2020-presidential-candidates-its-time-to-tax-us-more-6eb3a548b2fe>

This paper discusses the theory and practice of tax design to achieve an efficient and equitable outcome, i.e. in support of ‘inclusive growth.’⁵ It starts with a discussion of the key principles from tax theory to guide practical tax design (Section II). Then, it elaborates on the practice of tax policy making, thereby discussing key choices in the structure of the personal income tax on labor (Section III), capital income (Section IV), wealth (Section V), the corporate income tax (Section VI), and consumption taxes (Section VII). Finally, the paper elaborates on how to make tax reform happen (Section VIII).

II. Taxation Principles

Efficiency

Part of public finance theory concentrates on the efficiency effects of taxation, assuming economies are populated by identical representative agents. These theories teach us some important lessons about efficient tax design. By transferring resources from the private to the public sector, taxes inescapably impose a loss on society that goes beyond the revenue generated (except when taxes are “lump sum”). This is because taxes drive a wedge between the price a buyer pays for something and the amount the seller receives. As a result, a tax can prevent some mutually beneficial transactions. For example, a firm will demand labor up to the point where the wage cost (inclusive of tax) equals its marginal product; but a worker will supply labor effort such that its opportunity costs (foregone leisure or home production) equals the after-tax wage. The difference between the wage cost and the after-tax wage is called the labor-tax wedge, which reflects the gap between the value of extra production and the foregone leisure. The reduction in working hours is a pure welfare loss for society over and above the loss from the direct transfer to the public sector. This deadweight loss (or excess burden) is what determines a tax distortion.

Efficient tax design aims to minimize the total deadweight loss of taxes. The size of this loss depends on two main factors. First, losses are bigger the more responsive the tax base is to taxation. Second, the loss increases more than proportionately with the tax rate: adding a distortion to an already high tax rate is more harmful than adding it to a low tax rate. Two prescriptions for efficient tax policy follow: (i) it is efficient to impose taxes at a higher rate if things are in inelastic demand or supply; and (ii) it is best to tax as many things as possible to keep rates low. The latter forms the basis for several policy prescriptions, such as for base broadening and rate reduction.

In the optimum, the deadweight loss of each tax should be equalized at the margin—as otherwise a marginal shift between taxes could reduce the overall tax distortion. Simulations with general equilibrium models show, however, that marginal excess burdens vary significantly between different taxes (Jacobs 2009). This is consistent with empirical studies on the growth impact of taxes, which generally find that income taxes are more distortive for

⁵ An extensive analysis of the topics addressed in this paper can be found in the two volumes of the Mirrlees Review: *Dimensions of Tax Design* (2010) and *Tax by Design* (2011). IMF contributions on taxation and inclusive growth can be found in e.g. Boadway and Keen (2000), Bastagli, Coady and Gupta (2012), IMF (2014), Gupta et al. (2015) and the Fiscal Monitor of October 2017.

economic growth than taxes on consumption or real property (see e.g. Arnold et al. 2011; Acosta Ormaechea and Yoo, 2012). If we consider the reduction in GDP growth as a proxy for the welfare cost of a tax, this suggests that the tax mix of countries is currently far from efficient.

Equity

Any meaningful tax analysis of equity considerations requires a theory that departs from the representative agent assumption to allow for heterogeneity. Optimal tax theory typically does this by assuming variation in people's 'innate ability,' or 'talent'. The impact of a tax system on the distribution of after-tax incomes then depends on the progressivity of the tax-benefit system—that is, how rapidly the share of income taken by tax increases with the level of income. Thereby, theory generally allows for the possibility of negative taxes (i.e. transfers). The welfare impact of income redistribution is reflected in the social welfare function, which generally adds the utilities of individuals. Redistribution is desirable for two reasons: first, declining marginal utility of income implies that transferring a dollar from a rich to a poor person will increase the sum of the utilities; second, there is a possibility of social aversion against inequality by assigning higher welfare weights to people with low ability. One extreme here is the pure utilitarian approach that assigns equal weights to individual utilities; the other extreme is the Rawlsian approach that assigns only value to the utility of individuals with the lowest ability.

Income redistribution through a progressive tax-benefit system becomes more complicated if other dimensions are considered. For instance, should redistribution be based on individual or family income? And should progressivity be assessed in terms of annual income—an arbitrary period of measurement—or lifetime income? People may reasonably disagree on these matters and designing an equitable tax-benefit system becomes less straightforward than it may seem. It also raises important related equity issues, such as gender equality and intergenerational equity, which should be taken into account when designing the tax system.

Another important issue for equity is tax incidence. The person who ultimately bears the real burden of a tax may not be the one legally responsible for remitting payment, since taxes can affect market prices (including before-tax wages). The principle is that the burden of a tax—its effective incidence—falls more heavily on the side of the transaction with the least elastic response—that is, the one that finds it more difficult to shift out of the activity being taxed. These price changes as well as general equilibrium effects on the prices in other markets, are often ignored but can matter significantly for the distributional impact of tax policies.

Trade-off between equity and efficiency

Optimal tax theory emphasizes the trade-off between equity and efficiency. Ideally, governments should implement a progressive tax-benefit system that is based on the exogenous innate ability of people.⁶ This would be efficient as it induces no distortions in

⁶ Human capital of individuals is of course not exogenous, as it depends on education, health and other choices which can all be influenced by taxation. The emphasis here is on the innate talent.

behavior. Unfortunately, the government cannot observe the talent of people. Instead, it can only observe their income, which is the product of talent and effort (such as in education, training, and work). By setting a tax that is based on income, the tax-benefit system discourages effort and inevitably creates a distortion that is associated with welfare loss. This gives rise to a fundamental trade-off in designing the tax-benefit system, namely between equity and efficiency.

Pioneered by Mirrlees (1971) and advanced by Diamond (1998) and Saez (2001), optimal income tax theory explores how the tax-benefit system can strike an optimal balance between the two. Irrespective of the social welfare weights assumed in the social welfare function, it appears that the average tax burden at the bottom is negative—reflecting transfers provided to those with the lowest income. Then, marginal tax rates should optimally feature a U-shaped form as a function of income – that is, they should be high at the bottom, then fall between the bottom to the middle of the income distribution and subsequently rise from the middle to the top of the distribution. The high marginal tax rate at the bottom is because the transfers being given to the lowest income groups are phased out for middle incomes, as it would be too costly to provide them universally. The low marginal tax rate for the densely populated middle-income groups aims to avoid large aggregate distortions in labor effort. Then, a progressive tax rate structure should be imposed from the middle towards the top of the distribution to increase progressivity. Interestingly, this structure roughly resembles how most systems of means-tested benefits and personal income tax schedules have currently been shaped.⁷

The assumptions underlying optimal income tax theory have been challenged, however. The view that progressive taxes are bad for efficiency is based on "first-best" analysis in an economy without other, non-fiscal distortions. In practice, however, the world is full of other distortions. For example, markets may be missing (e.g. because of high transaction costs) or fail (externalities, asymmetric information, imperfect competition). In such a "second-best" world, progressive taxes can make a positive contribution to social welfare if they reduce distortions associated with missing and failing markets (yet, they could also exacerbate these distortions). Efficiency improvements have been emphasized in case of imperfections in labor, capital and insurance markets.

- *Imperfect labor markets (1): trade unions.* Trade unions can exert monopoly power in wage formation by demanding higher wages in negotiations with employers, thus reaping part of the rents from production. This creates structural unemployment because wages exceed the market-clearing level. Although for the trade union it is worth the price of a higher wage, unemployment is socially inefficient. A progressive income tax system can induce trade unions to reduce wage demands because a marginal wage increase produces less net take-home pay for union members. It thus reduces unemployment and increases social welfare.⁸

⁷ For an overview of these models and various extensions, see Piketty and Saez (2013).

⁸ Of course, trade unions may also provide a counterbalance to the monopsony power of firms.

- *Imperfect labor markets (2): frictions.* Labor markets are typically characterized by search frictions whereby companies incur costs to fill their vacancies with the right employees and workers must put effort into finding the right job. When they match, workers and firms then negotiate a wage that can exceed the market-clearing wage, depending on the bargaining power of the worker versus the employer. The higher wage, however, increases unemployment. Progressive taxes can encourage employees to settle at lower wages and boost vacancies so that unemployment falls.
- *Imperfect capital markets (1): borrowing.* People might not be able to borrow the amounts they prefer when young due to moral hazard (behavior that reduces the probability they pay back a loan) or legal restrictions (e.g. a bank cannot force people to work to pay back a loan). Progressive taxes can redistribute income from periods when income is high (higher working age) to periods when income is low (young age) and thus improve how people can spread their consumption optimally over their lives. They thus mitigate adverse effects of capital market imperfections.
- *Imperfect capital markets (2): learning.* Young people who are rationed on the capital market (e.g. students of poor parents) are not given the opportunity to invest in education. This is inefficient because potentially profitable human capital is not being built. Progressive taxes can again be efficient because they redistribute income over the life cycle, from old to young. Moreover, to the extent that income is redistributed from rich parents to poor parents, adverse effects of failing capital markets can be further limited.
- *Imperfect insurance markets (1): job risk.* Insurance markets fail due to asymmetric information, leading to adverse selection and moral hazard. Without insurance, people will reduce risk taking, e.g. by avoiding relatively risky jobs. Progressive taxes can mitigate this distortion by redistributing income from those with luck (i.e. a high income) to those with misfortune (i.e. a low income) – which effectively serves as an insurance device. More risk taking improves efficiency.
- *Imperfect insurance markets (2): learning risks.* As it is impossible to obtain insurance against the risk of returns to schooling, risk-averse people will invest too little in their education. Progressive taxes can serve as an insurance device and encourage such investments in knowledge.

These market imperfections thus qualify the presumed disruptive influence of progressive taxes on efficiency. Empirical evidence supports these theories, e.g. high marginal tax rates are found to reduce wages and structural unemployment (Sorensen 1997). Gerber et al. (2018) find that tax progressivity exerts no adverse effect on economic growth.

Enforcement

A critical element for equity and efficiency is to minimize both tax avoidance (legal) and evasion (illegal). The dividing line between them is not as clear-cut as it may sound, but both are major concerns for governments. Tax avoidance should be addressed by good tax design, e.g. by minimizing opportunities for tax arbitrage such as income shifting or by imposing

tight anti-avoidance measures. Minimizing tax evasion requires a good implementation and enforcement by the tax administration. This can be facilitated by making things simple for taxpayers who want to comply through self-assessment. Ultimately, tax administrations should ensure that the probability of detecting noncompliance—and the penalties that follow—is high enough to encourage compliance while supporting and reflecting widespread willingness to follow the rules.

There are special concerns on tax compliance in developing countries, where constraints on the implementation and enforcement of taxes are often more binding due to limited capacity. Moreover, underdeveloped capital markets and a large fraction of the population in informal self-employment render the opportunities for tax design more limited. In fact, constraints have often kept aggregate tax ratios very low. Simplicity in tax law design, easy tax collection from a limited number of sources, and ample self-assessment is therefore important to deal with these enforcement constraints and provide a rationale for e.g. corporate income taxes (especially to collect tax from retained corporate earnings that are otherwise hard to tax), value-added tax (for which the self-enforcing mechanism provides incentives for voluntary compliance), withholding taxes (exploiting administrative powers of large corporations and banks to reduce collection costs), excises (which can often be levied from just a few large businesses, such as breweries, tobacco companies and oil companies) and import tariffs (which can easily be collected on physical goods at the border).

The rest of this paper links the lessons from tax theory to the practice of tax policy making, focusing on the design of various taxes in support of inclusive economic growth.

III. Taxation of Labor Income

In advanced economies, the personal income tax (PIT) raises around 10 percent of GDP. In developing countries, this is much lower, generally not more than 3 percent of GDP. Moreover, these PIT liabilities in developing countries come from a small portion of the population, often comprising of salaried employees in the public sector. The main challenge for these countries is to expand the scope of the PIT system by increasing compliance. In all countries, designing an efficient, equitable and enforceable PIT system requires considering the following aspects.

Use individual income as the tax unit

The unit of income taxation can be either family or individual income. Traditional family-based taxation is often based on either family quotients to determine the joint tax liability (e.g. in France) or income splitting (e.g. in Germany). The latter means that incomes of both partners in a couple are first aggregated and then split in two equal halves that are taxed at the prevailing progressive rate structure. Joint filing has the attraction that it is neutral with respect to the choices made within the household, as the tax due for the family does not depend on which partner generates the income. However, if the incomes of two partners vary (perhaps being zero for one of them) they could significantly reduce their joint tax liability

by marrying and filing jointly (a ‘marriage bonus’).⁹ Family taxation could thus distort the choice of cohabitation. Moreover, in a progressive tax system, income splitting reduces the marginal tax rate of the primary earner (the partner with the highest income) and increases it for the secondary earner (the partner with the lowest income). Since the latter are often women, family-based tax systems are typically not gender neutral but instead disadvantage women by imposing a higher marginal tax burden on their income. As the elasticity of labor supply is generally found to be considerably higher for women than for men, family-based tax systems also discourage overall labor supply. For instance, Jaumotte (2004) provides a comprehensive set of simulations for OECD countries, based on estimated aggregate labor-force participation equations, and finds that eliminating tax discrimination against secondary earners (relative to singles) would raise the labor-force participation rate of women by 3.9 percentage points, on average across countries.

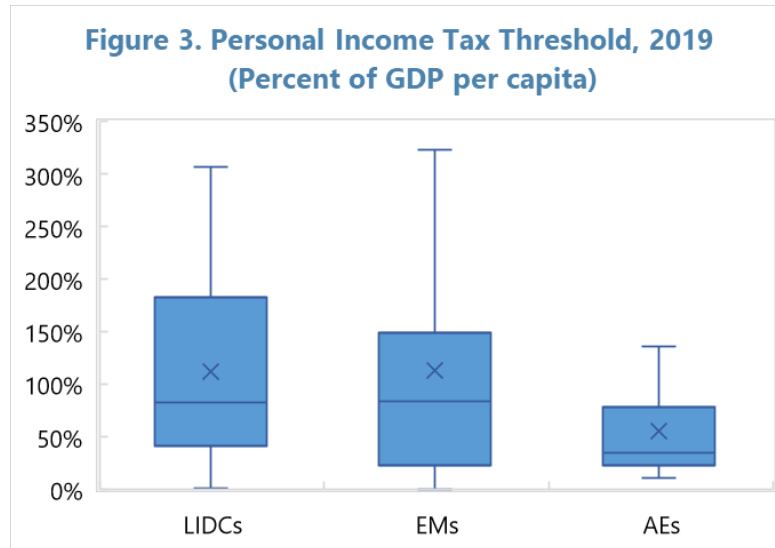
Many advanced economies have transformed their PIT into an individualized system. Fully individualized PIT systems are now in place in most European countries following initial reforms in the 1970s and 1980s in Scandinavia, Austria, the Netherlands and in 1990 in the U.K. Other countries with predominantly individualized systems have maintained some elements of family-based taxation, such as a transferable tax deduction from the non-working spouse to the breadwinner, family-based deductions, dependent spouse deductions, or options for joint filing. Countries have also introduced other features to improve the labor market participation of secondary earners, such as tax credits or deductions for childcare expenses or targeted deductions for the income of secondary earners.

Choose an appropriate PIT threshold

A threshold—either in the form of a zero-tax bracket, a basic deduction or a general tax credit¹⁰—supports tax progression by reducing or eliminating the tax burden on people with the lowest incomes. Thresholds vary significantly across economies. In the OECD, the median is approximately 25 percent of the average wage. Several emerging and developing economies, however, have no threshold at all and introducing one could relieve the poorest households from the obligation to pay tax and ease administration. However, the threshold should not be too high either, as this can lead to greatly reduced revenues. In several developing economies, for instance, the threshold exceeds two times GDP per capita (Figure 3). This leads to a very small coverage of the PIT and a low revenue yield, thus undermining redistributive income taxation.

⁹ For an analysis of the impact of the U.S. income tax on the marriage bonus (or penalty), see e.g. <https://www.taxpolicycenter.org/briefing-book/what-are-marriage-penalties-and-bonuses>.

¹⁰ Tax credits are in principle more progressive than tax deductions, since the value of a credit does not depend on the marginal tax rate faced by the taxpayer, as is the case with a deduction.



Source: IMF staff calculations.
 LIDCs = Low-Income and Developing Countries (57)
 EMs = Emerging Markets (96)

Provide relief for low-income wage earners

Optimal income tax theory provides a rationale for subsidizing earnings of low-wage workers, both because they are relatively responsive to tax (so that relief will eliminate severe inefficiencies) and because it contributes to reducing inequality. In many advanced economies,¹¹ these take the form of refundable tax credits, which constitute a net transfer to the individual when they exceed income tax liabilities. These benefits increase the net income gain from accepting a job relative to the alternative of being out of work and provide income support. In-work benefits are usually phased out as incomes rise, with the steepness of phase-out depending on the primary objective of the program. In countries that emphasize the labor force participation objective, benefits are usually gradually phased out with individual income (Belgium, Finland, Germany, the Netherlands, and Sweden).¹² In countries that emphasize the income support objective, benefits are often conditional on the presence of children in the household and generally phased out more steeply with family income so as to prevent leakage of benefits to higher income families and reduce fiscal costs (Canada, France, Korea, New Zealand, the Slovak Republic, the United Kingdom, and the United States). In the U.S. in 2017, 27 million eligible workers and families nationwide received about \$65 billion in tax credits under the earned income tax credit. The federal

¹¹ In-work tax credits require a strong tax administration and work best if taxpayers are already filing tax returns. This makes them less suitable for many developing countries.

¹² For schemes in the U.K. and the U.S., evaluation studies find that programs have a positive net effect on employment, especially for single women with children. Although negative labor supply effects have been found for those with income levels within the phase-out range, these were generally small.

government estimates that it lifted 9.4 million people out of poverty, including 5 million children.¹³

Rationalize tax deductions

Many countries—including developing ones—adopt various tax allowances in the PIT related to children, education, housing, health insurance, commuting and charitable donations. Some accrue disproportionately to the rich, such as deductions for mortgage interest, because households with high incomes are more often homeowners. Rationalizing mortgage interest deductibility could complement steps towards a more progressive tax system and improve efficiency, since these deductions create their own distortions.

More generally, PIT tax expenditures (defined as specific provisions in the tax code that allow certain people or companies to pay less tax) in several countries accrue disproportionately to people with high incomes. For example, Toder and Baneman (2012) find that if all individual income tax expenditures in the U.S. had been eliminated in 2011, the outcome would have been broadly progressive, with a 19.8 percent decline in after-tax income for the top 1 percent of the income distribution, compared to only a 7.5 percent decrease for the bottom quintile, with additional revenue available for pro-inclusive tax and expenditure changes. In the same vein, the Committee for Economic Development of Australia (CEDA, 2015) finds that superannuation¹⁴ in Australia carries tax concessions that primarily benefit the rich, with the top 20 percent of income earners receiving almost 60 percent of tax expenditures.

Use a stepwise rising PIT rate schedule

Flat PIT schedules often have appeal to policy makers as they signal simplicity and efficiency. Both arguments are flawed, however. Simplicity is a matter of designing the tax base, e.g. by minimizing deductions, credits and exemptions. The rates that are applied to this tax base will then be a simple calculation. Efficiency, as we have seen above, requires a non-linear structure of the PIT with rising marginal tax rates towards the top—not a flat tax. This shape is independent of the social aversion against inequality.

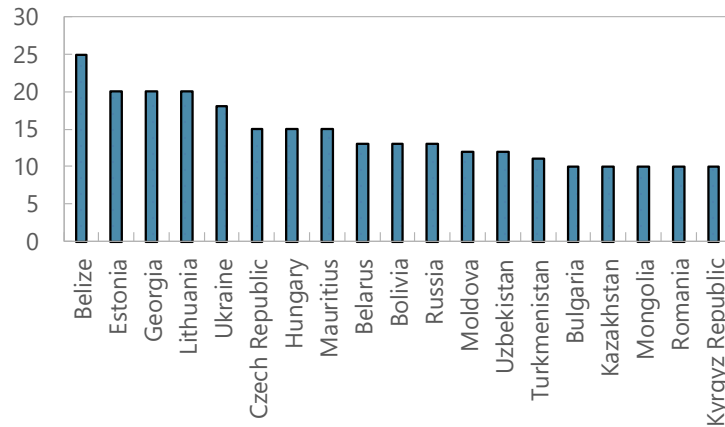
Nevertheless, since the mid-1990s 27 countries—especially in Central and Eastern Europe and Central Asia—have introduced flat PIT systems, usually with a low marginal rate (Figure 4). When combined with a threshold, these schemes are still progressive in the sense that the average tax burden rises with income. However, significantly more progression can be achieved by using a piecewise linear tax system whereby marginal tax rates increase with

¹³ See <https://www.eitc.irs.gov/eitc-central/about-eitc/about-eitc>.

¹⁴ A superannuation is an organizational pension program created by a company for the benefit of its employees. It is also referred to as a company pension plan. Funds deposited in a superannuation account will grow, typically without any tax implications, until retirement or withdrawal.

income. The challenge is to find a tax rate schedule that strikes a proper balance between equity and efficiency.¹⁵

**Figure 4. Countries with Flat PIT Rates, 2019
(Percent)**



Source: IMF staff calculations.

Set the top PIT rate at an appropriate level

Income tax progressivity has declined steeply in the 1980s and 1990s and has remained broadly stable since (IMF 2017). For instance, the median top PIT rate (across various country groups) dropped from 47 percent in 1990 to 30 percent in the past decade (Figure 5).

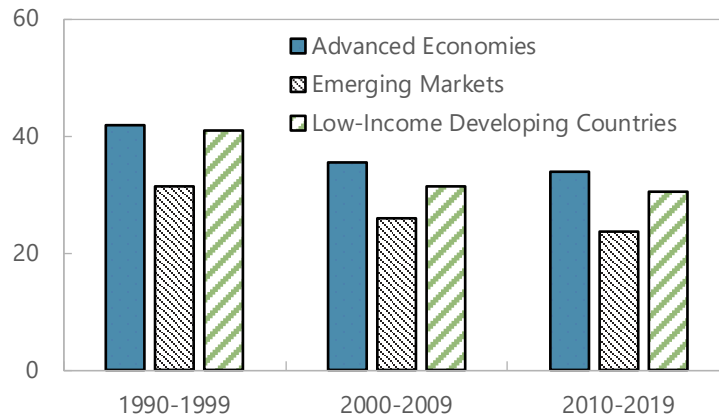
The desirable top PIT tax rate is a contentious policy issue, but optimal tax models provide some guidance. For instance, if one assigns zero welfare weight to top income earners (Rawlsian social welfare), it would be optimal simply to maximize revenue collected from them. This requires balancing the revenue gain from a higher marginal top PIT rate at the initial base against the revenue loss induced by behavioral responses that a higher tax rate would induce—such as reduced labor effort, avoidance or evasion—measured by the elasticity of taxable income (see Saez and others 2012 for a review). Studies estimating this revenue-maximizing rate find that it generally ranges between 50 and 60 percent (IMF, 2013b).¹⁶ Some argue that it may be even higher—up to 80 percent—as higher top rates can help discourage rent seeking by top-income earners (e.g. managers who might be able to partly set their own pay by bargaining harder or influencing compensation committees) (Piketty et al 2014). Others, however, emphasize that high marginal rates cause other adverse economic effects, e.g. on innovation and entrepreneurship, and thus create larger economic costs than is sometimes assumed (Akcigit et al 2019). Moreover, the calculations rely on the extreme assumption of a zero welfare weight for the very rich. If a positive welfare weight is

¹⁵ The IMF Selected Issues Paper for Finland’s Article IV consultation in 2019 provides an illustration of such an assessment.

¹⁶ Revenue-maximizing rates in developing countries with notably weaker administrative capacity, might be lower than in advanced economies. Top PIT rates in developing countries are indeed generally lower than in advanced economies.

assigned to them, the optimal top PIT rate will be lower. Yet, some countries seem to have room to increase their top PIT rate to boost revenue and strengthen progressivity.

**Figure 5. Average Top PIT Rates, 1990-2019
(Percent)**



Source: IMF staff calculations.

IV. Taxation of Capital Income

An important aspect of efficient redistributive taxation is how capital income is treated. To understand this, it is useful to make a distinction between two components of capital income: the normal return to capital and economic rent. The normal return on capital is generally defined as the minimum return required to make investors indifferent between investing in the asset and investing in some benchmark investment,¹⁷ such as a government bond. The remaining profit, over and above the normal return, is called rent. While the normal return can be called capital income, rents might in fact be subject to bargaining between workers and capital owners—and thus can be reflected in either capital or labor income (in the form of wages that exceed the marginal product of labor).

Public finance literature is unanimous in advocating taxes on rents: they should be taxed based on both efficiency and equity arguments. Rent taxes are in principle non-distortionary and a classic result from the literature is that they can in fact be taxed at 100 percent without inducing behavioral change. In practice, tax burdens are generally much lower, in part because rents are often ‘quasi rents,’ arising from specific long-term investments with a fixed cost, which might be distorted if tax rates become too high. Moreover, some factors that generate rents (such as intellectual property rights) might be mobile internationally in terms of where they are held and managed from. Taxation can thus induce a distortion in the location of these factors.

The literature is divided on the question whether the normal return to capital should be taxed or not. Capital income—interest, dividends and capital gains—is used for future consumption

¹⁷ Adjusted for risk.

so that taxes on it correspond to a differentiated consumption tax on present versus future consumption—one that compounds if the time horizon expands. Prudent people who prefer to postpone consumption to later in life (or transfer it to their heirs) will thus be taxed more than those who do not, even though they have the same life-time earnings. This violates horizontal equity principles. Moreover, it causes a distortion by encouraging individuals to substitute future with current consumption, i.e. they reduce savings. The tax is therefore also inefficient. A classical result, formalized by Chamley (1986) and Judd (1985), is that the optimal tax on capital is zero and that redistribution could better be achieved by a progressive tax on labor income. This powerful result has led several economists to argue for a tax exemption of the normal return.

However, there is fundamental criticism on this zero-capital income tax result. These critiques focus on the empirical validation of assumptions underlying the models of Chamley and Judd, practical considerations and even the interpretation of the model results (Diamond and Banks 2011; Jacobs 2013; Straub and Werning 2020):

- *Behavioral assumptions.* The zero-tax result is based on models that assume optimization over an infinite horizon (a dynasty model). However, the result does not hold under a finite horizon. The latter is empirically more plausible, as real people are often short-sighted. Moreover, people with higher ability are generally found to save more because they presumably have different preferences than people with lower ability. This implies that capital income taxes become an efficient form of redistribution because these taxes exploit additional information about people's talent. This effect is reinforced by the empirical fact that returns to savings are higher for individuals with high incomes as they are inclined to take more risk.
- *Market imperfections:* if only low ability people face borrowing constraints, a capital income tax that transfers funds from high to low ability individuals will alleviate capital-market imperfections and improve efficiency. Moreover, capital income taxes can be efficient to mitigate distortions in education and training, as in the absence of a tax on capital income it could cause substitution of human capital investments for financial investments.
- *Enforcement constraints.* Governments can find it difficult to distinguish between capital and labor incomes, especially for self-employed entrepreneurs. If people can shift between those incomes, the optimal tax on capital income becomes positive.

While most economists believe a positive tax on capital income is desirable, there remains a lively debate as to how capital income should be taxed. For some, the theoretical ideal is to tax the sum of labor and capital income at a progressive rate structure, consistent with the ability-to-pay principle. This 'global income tax' prevents arbitrage between labor and capital that could otherwise arise in the taxation of self-employed. However, others support separate taxation of labor and capital income under a 'dual income tax'. Typically, a progressive rate scheme then applies to labor income, while a flat rate applies to capital, usually at a relatively lower rate. The motivation for this is twofold: first, it mitigates distortions in saving and investment, which tend to be relatively severe; second, capital

income taxes do not need to be personalized, which eases enforcement by using withholding schemes.

In open economies, capital income taxes can be based on either of two principles: the source or residence principle. ‘Source’ refers to the country where the capital is installed and yields its return; ‘residence’ is the country where the owner of the capital resides. Residence-based capital income taxes are consistent with taxation based on ability to pay of domestic residents, as they are taxed on their worldwide capital income—irrespective of where the source of the returns is. This generally applies to the PIT. Source-based taxes, such as the corporate income tax, impose tax on both domestic and foreign investors in a country. Whether investors really bear the economic incidence of these source-based taxes is unclear, however, due to the mobility of capital. For instance, with mobile capital after-tax returns on investment are fixed on world capital markets. Any source-based tax will then lead to adjustment in the amount of capital such that before-tax return rises enough to restore equilibrium. Less capital means lower wages so that the incidence of a source-based capital tax will fall on workers. Empirical evidence suggests that, indeed, the lion’s share of the corporate tax burden falls on wages (Arulampalam, Devereux, and Maffini, 2012)—although this conclusion is not undisputed (Gravelle 2013).

To make a tax on capital least distortive and most inclusive, it is advised to consider the following design options.

Ensure neutral taxation of entrepreneurial income

One reason why a tax on capital income is important is because it is a necessary backstop in the taxation of entrepreneurial income. Indeed, it is often difficult (or even impossible) for tax administrations to distinguish labor income from capital income earned by self-employed entrepreneurs. Businesses organized as sole proprietorships are therefore generally taxed on their total income through the prevailing PIT—and no distinction is made between the labor and capital components of that income. However, entrepreneurs might also opt to run their business as a closely-held corporation. The business then pays its owner-director some fixed remuneration for its labor, which would be subject to the PIT scheme. The remainder of its business income would be seen as capital income and taxed under the corporate income tax (CIT), possibly complemented by a tax on dividend distributions. However, if there is a large difference between the PIT and the CIT treatments, these entrepreneurs will have an incentive to manipulate the share of labor and capital income so as to minimize their overall tax liability. As this will be hard to verify by the government, such arbitrage looms large. To avoid this, it is important to broadly harmonize the rates of the PIT and the combined burden of the CIT and dividend taxation.

Tax different types of investment income uniformly

In many countries, different forms of investment income are taxed at different tax rates. For instance, interest payments are usually deductible for the CIT, whereas returns on equity are not. As a result, interest received by individuals is more lightly taxed than equity returns. At the personal level, moreover, dividends are often taxed at much higher rates than capital

gains—which are sometimes left entirely untaxed. This induces firms to retain earnings in the firm or distribute profit by buying back shares. Hence, neutrality of capital income taxation in many countries calls for higher taxes interest and capital gains as compared to dividends.

Many countries also have some form of preferential treatment for certain investors or investments by exempting them from PIT. For example, capital returns of pension funds are often untaxed; and some countries exempt interest on government bonds or other types of returns. All these differences induce changes in asset portfolios of investors that erode the capital income tax base and create economic distortions. A neutral, uniform treatment of all investment income without exemptions is the best way to mitigate this.

Minimize evasion

Taxing capital income at the individual level can be administratively challenging because people can often hide their income from the tax administration, e.g. by holding their assets abroad. The key challenge for tax administrations is to collect and use third-party information to implement taxes on capital income. For instance, the implementation challenges provide a very strong rationale for withholding taxes at the level of the firm, that is, through the CIT. Moreover, withholding taxes on interest and dividends can, to some extent, further circumvent administrative difficulties as they utilize banks and large corporations to collect taxes. Some Latin American countries also impose withholding taxes on capital gains.

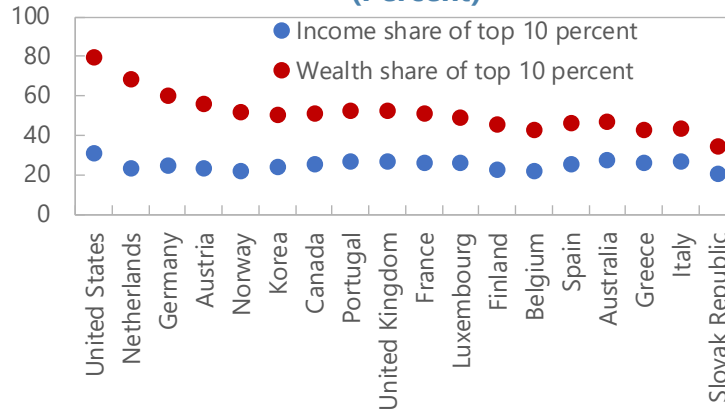
An important development for the enforcement of capital income taxes is the increasing prevalence of arrangements to exchange information between countries for tax purposes. Especially automatic exchange of information (AEOI) under the initiative of the G20 and the U.S. Foreign Account Tax Compliance Act (FATCA) hold the prospect of facilitating the enforcement of both capital income taxes and net wealth taxes. A recent IMF study by Beer et al. (2019) finds that the introduction of these standards has already reduced deposits held in low-tax jurisdictions by 25 percent—indicating their effectiveness in curbing tax evasion. Global adoption of these standards is necessary, however, as otherwise deposits might be shifted elsewhere where they can remain hidden. Moreover, for developing countries, there remains a challenge to effectively utilize such information to enforce the taxation of capital income.

V. Taxation of Wealth

Wealth is more unevenly distributed than income, both across and within countries. In the OECD for example, the average share of wealth held by the top 10 percent of households is 50 percent, which by far exceeds the average share of income (24 percent) held by the top 10 percent (Figure 6). In the U.S., the top 0.1 percent of the population holds nearly 22 percent of total net wealth, a similar share as the bottom 90 percent. These large and growing inequalities have sparked debate on the taxation of wealth.¹⁸

¹⁸ See e.g. the IMF Fiscal Monitor October 2017.

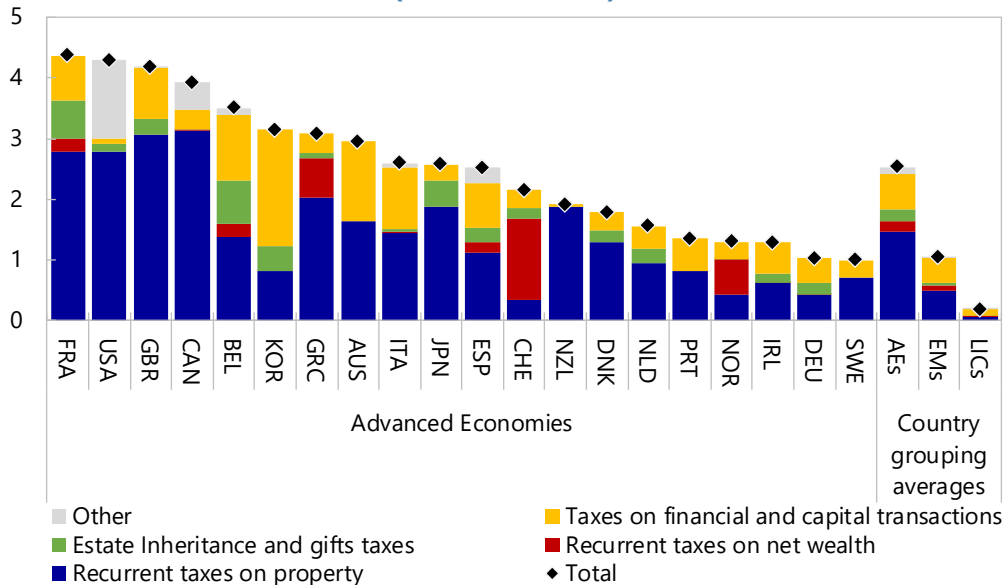
**Figure 6. Income and wealth shares*
(Percent)**



Source: World Bank WDI and OECD Wealth Distribution Database.
*Data from 2012 or latest available year.

Wealth taxes can be imposed on the stock of wealth or transfers of wealth. Figure 7 shows the revenues raised by such taxes, including on property and net wealth. In advanced economies, it ranges between 1 and 4 percent of GDP; in developing countries, it is on average much lower than that. The following points guide policy makers on their use.

**Figure 7. Taxes on wealth, 2017
(Percent of GDP)**



Source: OECD Global Revenue Statistics Database.

Notes: **Recurrent taxes on property**, includes taxes levied on the use or ownership of immovable property, including land and buildings. Debts are not taken into account. Taxes paid by households and other entities are included. **Recurrent taxes on net wealth** cover taxes levied regularly on net wealth, which includes a wide range of movable and immovable property, net of debt. Includes taxes paid by individuals and corporate enterprises. **Estate taxes** are charged on the amount of total estate, whereas **inheritance taxes** are charged on the shares of individual recipients. Includes taxes on the issue, transfer, purchase and sale of securities, as well as taxes levied on specific transactions such as the sale of immovable property. **Other** includes other non-recurrent taxes on property.

Strengthen recurrent property taxes¹⁹

Real property taxes are imposed on gross values. They are among the least distortive for economic growth as their base is immobile. Given that they are paid mainly by residents, and property values likely reflect the value of local public services, property taxes can resemble a benefit tax which can support accountability of local authorities. To the extent that property taxes are capitalized into house prices (e.g. if their supply is fixed), they can also be somewhat progressive since home values generally increase with income and net total wealth holdings.²⁰

Property taxes raise on average around 1 percent of GDP in advanced economies, although their yield goes up to 3 percent of GDP in the UK and Canada. In developing countries, they generally raise less than ½ percent of GDP. In many countries, there is scope to exploit this tax more fully by raising tax rates, updating property values to current market prices and, especially in developing countries, improving cadasters and scaling up administrative capacity. Where market-based valuation is hard, simplified approaches based on property areas can produce reasonable outcomes at lower administrative costs. Property taxes can also be imposed on their transfers. Property transfer taxes may be easier to collect at the time of a sale, which has particular appeal in a low-capacity environment. Yet, these taxes are less efficient than recurrent property taxes, as they reduce mutually beneficial transactions. In some countries (e.g. Belgium, Italy and South Korea) property transfer taxes raise over 1 percent of GDP. A shift toward recurrent property taxation could mitigate distortions in housing markets.

The challenge of a net wealth tax (NWT)

When considering NWTs, it is important to recognize that for assets that generate a return, there are important similarities between a tax on that return and a tax on the underlying asset. This may imply that governments should choose between either a capital income tax or a NWT. Economists generally favor the former for several reasons:

- **Equity.** If wealthy households generate higher rates of return, e.g., due to higher risk-taking, the effective tax burden on capital income will be more progressive under a capital income tax than under a NWT.
- **Efficiency.** Like a capital income tax, a NWT affects the after-tax returns to savings, thereby distorting capital accumulation and work effort. Yet, the government does not share in the investment risk under a NWT, unlike under an income tax with loss offset.

¹⁹ Norregaard (2013).

²⁰ The redistributive impact might be more muted than for a net wealth tax, however. For instance, in the US, principal residences account for 62 percent of the gross assets of individuals in the middle three quintiles of net worth, while they represent only 8 percent of gross assets for the top 1 percent. Hence, the property tax may not target the wealthiest.

This means that NWTs distort innovation and entrepreneurship more under a NWT and thus hurt (long-term) economic growth.

- **Administration.** Capital income taxes might be easier to enforce as tax can be withheld at source, e.g. on interest or dividend payments. However, similar mechanisms could in principle be applied to the stock of wealth.

The similarity above applies to financial assets that generate a rate of return. However, wealth also comprises of non-financial assets such as immovable property and other valuables that do not generate a flow of income (e.g. cars, boats, jewelry, art, etc). A comprehensive NWT would thus have a wider base than a tax on capital income. This wider base, however, might be difficult to enforce.

The key to enforcing a NWT is information reporting by third parties. For instance, financial institutions should provide end-of-year wealth balances for interest-bearing assets, publicly-listed stocks, assets held by mutual funds, and mortgage or student loans; pension funds should report the value of individual retirement accounts; and local governments should share information about the value of real estate and registered vehicles. However, implementation issues may arise with the valuation of certain non-financial assets. For instance, difficulties generally arise with the valuation of closely-held businesses which are not traded, defined benefit pension assets, and works of art and other valuables. Such assets have therefore often been excluded from NWTs, which then subsequently induces scope for tax avoidance. Evasion by the wealthy has been particularly difficult to uncover through traditional means, such as random audits and self-reporting. Hence, the introduction of a NWT will require increased resources for enforcement, reporting by third parties, and arrangements to exchange information between countries.²¹ These issues likely make a NWT less feasible for countries with weak administrative capacity.

The value of wealth held offshore is also hard to ascertain, as information is more difficult or even impossible to obtain. Zucman (2013) estimates the portion of global financial wealth that is held in offshore low-tax jurisdictions at 8 percent—much of which is likely to go untaxed. Studies on Scandinavia suggest that such offshore holdings are most prevalent among the ultra-wealthy (i.e., the top 0.1 percent of the wealth distribution). As discussed above, these enforcement challenges of a NWT might be mitigated by the increasing prevalence of arrangements to exchange information between countries for tax purposes.

A handful of studies have estimated the extent to which NWTs induce behavioral responses in form of reduced saving/investment, avoidance behavior (i.e. legal shifts toward exempt or tax-preferred assets) and tax evasion (illegal misreporting of wealth) (Scheuer and Slemrod 2020). This is reflected in the tax elasticity of reported wealth. In Denmark, Spain and Switzerland effects are estimated to be very large, in order of a decline in reported wealth

²¹ In many advanced economies, tax administrations have separate units to deal with the compliance of high net wealth individuals, a group that is considered extremely high risk (McLaughlin and Buchanan 2017). The number of tax administrations focusing on this segment has been increasing in the higher-income countries, but not in developing countries.

between 32 and 44 percent in response to a 1 percent tax on wealth. Using evidence from the Panama papers, it appears that a significant portion of these behavioral responses is due to evasion; and this response tends to increase with the level of wealth, i.e. evasion is much larger for the ultra-wealthy (Alstadsæter et al. 2019).

The prevalence of comprehensive NWTs has declined over time. Several countries that had a NWT in the 1990s, for instance, have repealed it (e.g., Australia, Canada, Pakistan and several European countries, including recently France)—in some cases due to limited revenue relative to administrative effort or for constitutional reasons. However, NWTs have survived in Italy, Norway and Switzerland and have been reinstated by Belgium and Spain. In Switzerland, all cantons levy a NWT based on the balance of the worldwide gross assets minus debts. This tax yields around 1 percent of GDP. The Netherlands does not tax capital income but instead taxes a presumed return on savings and investments—referred to as the assets in “Box 3”—comparable to a NWT. It raises around 0.6 percent of GDP. In other countries, revenue from NWTs has been (much) lower.

Tax inheritances and gifts

Inheritance taxes could play a useful role in limiting inter-generational inequality and strengthening equality of opportunity.²² A distinction can be made between intentional and unintentional bequests. The latter are most efficient as they do not affect behavior. The former may lead to avoidance behavior, e.g. people can transfer gifts during life. Therefore, countries usually supplement inheritance taxes with gift taxes. Inheritance and gift taxes might be easier to enforce than NWTs as the transfer of wealth avoids liquidity problems that could otherwise arise. However, complex tax structures with ample forms of preferential treatment and exemptions have often facilitated tax avoidance. As a result, they have not proved easy to implement. In 9 OECD countries, inheritance taxes no longer exist; and where they still exist, rates of tax are generally low with widespread exemptions and ample avoidance. Revenues are on average around 0.1 percent of GDP. There seems potential to increase revenues from them, however: in Belgium and France, for example, they raise 0.7 and 0.6 percent of GDP, respectively.

VI. Corporate Income Taxation

A positive tax on capital income doesn't mean countries should tax corporations. Indeed, capital income taxes can be levied directly on the people that ultimately receive that income, i.e. shareholders and creditors. So: why is there a need for a CIT?

It is hard to justify a CIT on efficiency grounds. As explained before, the incidence of the CIT in a small open economy falls largely on workers, not on the firm or its shareholders. Since it is more efficient to tax labor directly than indirectly, the optimal CIT is found to be zero. This is an application of the Diamond-Mirrlees (1971) production efficiency theorem, one of the most powerful precepts in public finance: transactions between businesses should

²² They can also be imposed as an estate tax, levied on the donor, instead of an inheritance tax levied on the donee.

never be taxed because firms will choose different inputs than they would in the absence of the tax and end up producing less than they could. This can never be efficient. Thus, there are no efficiency reasons for a tax on the normal return earned by businesses. Also, empirical growth studies have found that the CIT is among the most distortive taxes for growth—although this result is not robust among studies and much can depend on how the CIT is designed.²³

There are yet two reasons why a CIT can still be desirable for countries:

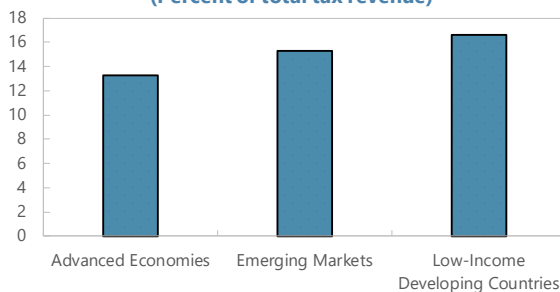
- *The CIT imposes tax on economic rents, including those earned by foreign owners.* For an individual country, taxing these rents has significant appeal. This is especially important for rents arising from extractive industries that exploit natural resources—which is particularly important for several developing countries. Fiscal regimes are generally in place to ensure that a fair share of these natural resource rents accrues to the governments of the country where the resources are located. Aside from the CIT, such regimes generally rely on a combination of specific rent taxes and royalties. There is currently also debate on the taxation of rents earned by highly digitalized businesses (see e.g. IMF 2019b and OECD 2018).
- *The CIT has administrative appeal due to its withholding function.* Corporations are convenient collection agents for governments as they hold proper books and records that can effectively be monitored by tax inspectors. Relying entirely on individuals to pay their tax based on filed tax returns would be considerably costlier to enforce. The withholding role of the CIT is especially important for profits that are retained in the company. These lead to higher share prices and, therefore, to capital gains for the owners. However, for practical reasons capital gains are rarely taxed on an accrual basis at the individual level (e.g. a cash-constrained owner would have to sell stock to pay its tax) but rather upon realization. Capital owners can thus postpone their tax payment by not realizing these gains. The attraction of the CIT is that it withholds tax on all profits as they arise, thus eliminating the difficulty in taxing capital gains.²⁴

On average across the world, the CIT raises around 3 percent of GDP. Especially for low-income countries, they provide for a relatively large share of total revenue (Figure 8). CIT revenue has been at the same level for quite some time, despite a reduction in rates. Indeed, over the past three decades, CIT rates have tumbled from an average of around 40 percent in 1990 to slightly more than 20 percent today (Figure 9). One reason for the constant revenue is that countries have simultaneously broadened their corporate tax bases.

²³ See IMF Fiscal Monitor, October 2013.

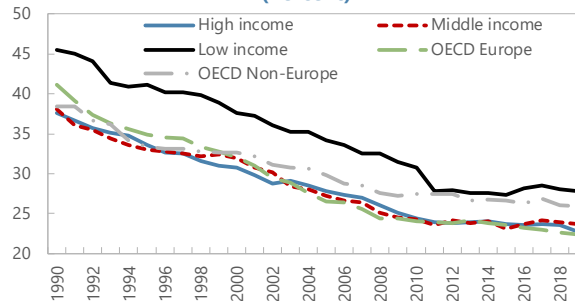
²⁴ The withholding role of the CIT is reflected in so-called integration systems. They generally provide imputation credits to shareholders at the personal level for the CIT that has already been withheld, either in full or in part. The difficulty with integration systems, however, arises from international transactions: credits are generally not provided for foreign CIT paid. This can lead to distortions in international capital markets. In the European Union, therefore, imputation systems have been abolished.

**Figure 8. Share of CIT
(Percent of total tax revenue)**



Source: IMF staff calculations.

**Figure 9. Combined CIT rates
(Percent)**



Source: IMF staff calculations.

In structuring the CIT, countries should consider the following to minimize distortions and support inclusiveness.

Design the CIT as a rent tax

The key drawback of how CIT systems are currently designed in most countries is that they create two major economic distortions. First, by raising the cost of capital on equity they distort investment decisions. This hurts economic growth and adversely affects efficiency. Second, by differentiating between debt and equity, they induce a bias toward debt finance. This not only creates an additional direct welfare loss, but also threatens financial stability.²⁵

Both distortions can be eliminated by designing the CIT as a rent tax.²⁶ There are different ways to doing this. First, one class of rent taxes is known as cash-flow taxes, which allow for full expensing of investment instead of deductions for tax depreciation. The simplest form is a real-base cash-flow tax, defined as the net sum of all real receipts and payments, excluding financial flows such as interest payments, net debt issuance, and net dividends. A second type of cash-flow tax is levied on real and financial cash-flows, which adds inflows from issuing loans or interest received and deducts outflows, such as repayments and interest costs. In practice, pure cash-flow taxes are rare. However, there are many examples of countries implementing some of their features. Some countries, for example, have temporarily allowed expensing of investment, but without restricting interest deductibility, such as the US does since its latest reform in 2017. Other countries use cash-flow tax features on surtaxes, for example in the natural resource sector, to capture resource rents (IMF 2012). Mexico for some time had a cash-flow tax that served as an alternative minimum tax.

An alternative rent-based tax system keeps the current CIT but adds a deduction for a notional return on corporate equity—to equalize the treatment of interest. Similarly, the so-called allowance for corporate capital (ACC) replaces the deductibility of actual interest with a notional interest rate applied on all capital, i.e. debt and equity, to obtain neutrality. Allowance for corporate equity systems have been implemented, sometimes only for a few

²⁵ For a more in-depth discussion, see IMF (2016a).

²⁶ Normal returns can still be taxed at the personal level.

years, in a several countries (Belgium, Croatia, Cyprus, Italy, Latvia, Liechtenstein, Malta, Turkey). Studies generally find powerful effects of the introduction of these systems on corporate debt levels; and some studies also report positive effects on investment. Simulations with a general equilibrium model suggests that the introduction of an allowance for corporate equity in Europe will reduce the corporate debt-to-asset share by 5 percent, boost investment by around 6 percent and raise GDP by 2 percent (De Mooij and Devereux 2011). ACC-like systems were in place in several countries during the world wars, known as excess profits taxes, to finance extraordinary spending.

Consider cost-based rather than profit-based tax incentives

Most countries use some form of tax incentives to mitigate the distortionary impact of the CIT on investment. In advanced economies, especially investments in research and development (R&D) are incentivized. In developing countries, incentives often focus on attracting foreign direct investment (FDI). For both, their design can often be improved by focusing the incentives on reducing the cost of investment, rather than on providing tax relief on profits.²⁷

Many advanced countries encourage R&D by special tax credits or super deductions. These policies can be efficient due to the positive externalities associated with R&D. Empirical evidence suggests that these policies have worked well in many countries and that they hold the prospect of generating significant positive long-term growth effects. The April 2016 Fiscal Monitor, for example, finds that efficient pricing of R&D can boost GDP by 5 percent on average. Recently, some countries have adopted a different type of incentive that does not focus on reducing the costs of R&D but rather on reducing the tax on the profits they generate. These so-called patent box regimes have become particularly prevalent in Europe. Evaluation studies indicate that these regimes either had no discernible impact on R&D or, where they did have an impact, had significant fiscal costs. Indeed, incentives that reduce the costs of R&D investments directly are more cost-efficient than profit-based measures.

Many developing countries aim to attract FDI by providing outright tax exemptions, e.g. in special economic zones, or through time-bound tax holidays. However, these incentives are generally found to be ineffective and inefficient. Indeed, their fiscal cost can be high, while surveys show that these tax incentives generally rank low in the list of relevant location factors for multinationals. Surveys also indicate that profit-based tax incentives are often redundant—that is, the investment would have been undertaken also without them. Investment tax incentives that directly reduce the cost of investment, such as investment tax credits, accelerated depreciation or outright expensing of investment yield more investment per dollar spent.²⁸

²⁷ See IMF Fiscal Monitor, April 2016. Note that cost-based incentives are redundant if the CIT is designed as a rent tax, since this would eliminate investment distortions. In that case, subsidies might still be welfare enhancing, however, for investments that generate positive externalities such as R&D.

²⁸ IMF, OECD, World Bank and UN, 2015, Options for Low Income Countries' Effective and Efficient Use of Tax Incentives for Investment.

Adopt tailored anti-tax avoidance measures

A major risk for the CIT base of countries is due to profit shifting by multinational companies. For instance, international businesses can use transfer pricing techniques, international debt shifting and treaty shopping to reduce their tax liability in a country (see Beer et al. 2020 for a review of evidence on profit shifting). To protect the CIT base against profit shifting, it is important for countries to adopt appropriate anti-tax avoidance measures. The OECD project on base erosion and profit shifting (BEPS) agreed upon common rules and guidance for countries to do so. The European Union has adopted two Anti-Tax Avoidance Directives, to make some of these outcomes mandatory for its member states. In the US, the Tax Cuts and Jobs Act contains anti-tax avoidance provisions that go beyond the BEPS standards by introducing minimum taxes on outbound and inbound investment. In developing countries, anti-tax avoidance measures are particularly important, as these countries suffer relatively more from profit shifting than advanced economies (Crivelli et al. 2016). The capacity to enforce anti-avoidance measures in these countries is constrained, however, due to limited administrative capacity. Moreover, developing countries face distinct problems associated with taxing income at source. To address profit shifting and strengthen the revenue base, developing countries require tailored solutions, for instance in the form of simple caps on CIT deductions to foreign related companies or the adoption of alternative minimum taxes, imposed on assets, turnover or cash-flow (Aslam and Coelho, 2020).²⁹

VII. Consumption Taxation

The distinction between direct taxes on income and indirect taxes on consumption is less important than it may seem. A uniform tax on consumption is broadly equivalent to a uniform tax on income: the only difference is that the consumption tax excludes the normal return on capital—hence it is equivalent to a tax on wages and economic rents. However, an important difference is that the government can generally observe individual incomes but not individual consumption. Therefore, if it wants to efficiently design a redistributive tax-benefit system, it can better use a progressive individualized income tax than a non-individualized consumption tax. There is thus no need for governments to employ consumption taxes to achieve redistribution, as it will always be less efficient compared to a non-linear progressive income tax (Atkinson and Stiglitz, 1976).

The equivalence between taxes on wage + rent income and consumption only holds under restrictive assumptions regarding the utility structure of households. In more general settings, consumption taxes should be differentiated to minimize efficiency losses. The simplest approach here is the Ramsey tax principle, as illustrated in Section II, which says that taxes should be higher on goods that are inelastic in supply and demand and lower on goods that are elastic. Yet, the Ramsey rule is misleading as it ignores cross-price effects. A more general approach to the optimal differentiation of consumption taxes is that they should minimize distortions between taxed and untaxed goods and services, with the latter generally referring to activities such as leisure, home production or informal labor. This leads to the

²⁹ For a more in-depth discussion, see IMF 2014 and 2019. These papers also discuss options for the design of the international tax framework and the importance of international coordination on these matters.

classic Corlett-Hague (1953) rule, which says: consumption taxes should be higher on commodities that are close complements to the untaxed items and lower on their close substitutes. Indeed, taxes on close complements mimic taxes on the untaxed items themselves, and thus reduce the overall distortionary impact of the tax system. Empirically, however, there is little consensus among economists as to the precise optimal rate differentiation based on the Corlett-Hague rule – except for certain specific items such as child-care services (which should be subsidized, being close substitutes for informal own care). As a rule of thumb, therefore, a uniform consumption tax is generally seen as a proper benchmark for the optimal tax on consumption.

Empirical studies generally find that consumption taxes exert relatively small adverse effects on economic growth, i.e. smaller than income taxes. At the same time, consumption taxes are often claimed to be regressive, i.e. richer households pay less tax as a percentage of their income than poorer households. Thus, there seems a trade-off between equity and efficiency. Yet, claims about regressivity should be qualified, as they mainly reflect higher savings by the rich. When the consumption tax burden is considered as a proportion of total current expenditure—which many would argue is likely a better indicator of economic wellbeing—consumption taxes are often found to be neutral for the income distribution—or even slightly progressive (IMF 2019c). Moreover, while concerns about the distributional implications of consumption taxes are relevant, they should be assessed in the context of the overall tax and spending system.

To support inclusive growth, the following considerations are important for consumption taxes.

Design an efficient VAT³⁰

Today, more than 160 countries have a VAT system in place, which resembles a broad-based consumption tax. These systems typically account for around one-quarter or more of total tax revenue. A VAT is imposed on every transaction in the production process. When goods are purchased by a VAT registered business, the tax paid on inputs is credited or refunded. This ensures that VAT is ultimately only levied on final consumption, where no credits or refunds are provided. This design has the attraction of encouraging voluntary tax compliance, since each business has an incentive to register in order to claim credits on their inputs. Moreover, those who operate in the informal sector are still charged on their inputs, without them being able to claim credits. Nevertheless, VAT design in many countries can be full of exemptions and differential rates, which reduces these advantages and induces economic distortions. Acosta Ormaechea and Morozumi (2019) find that this can be damaging for economic growth. To effectively raise revenue from VAT while doing the least damage to inclusive growth, VAT systems can best be designed with a high threshold, a broad base, and a single rate.

³⁰ A deeper analysis and discussion can be found in Ebril et al. (2001) or the Tax Policy Assessment Framework on <https://www.imf.org/en/Data/TPAF>. Some countries refer to the value-added tax as “goods and services tax” (GST)—e.g. Australia, Canada, India, New Zealand and Singapore.

- *A sufficiently high threshold* aims to reduce the compliance costs of VAT for small traders. At the same time, the revenue foregone can be minimal, in part because unregistered businesses cannot claim input credits. A VAT threshold can also strengthen the progressivity of the VAT by reducing the tax on small traders in rural areas where the poorest often buy their goods (Jenkins, Jenkins, and Kuo, 2006).
- *Minimize VAT exemptions.* Some countries exempt basic goods from VAT to mitigate its distributional effects. However, exemptions are inefficient to achieve a more equitable outcome. First, they cause distortions due to cascading effects (tax on tax) if applied to intermediate stages of the supply chain, as exempt businesses cannot claim credits on their inputs. Second, exemptions create a bias against outsourcing by businesses, since the tax burden can be reduced by producing inputs in-house rather than purchasing taxable inputs from third parties. This creates another inefficiency. Third, by exempting suppliers, the incentives for voluntary compliance with the VAT are reduced. A limited number of well-defined exemptions is quite common, however, for practical reasons. Standard exemptions are applied for example for margin-based financial services, basic health care and education.
- *Use a single VAT rate.* Some countries tax necessities such as food and medicine at special reduced VAT rates to pursue redistributive policies. The idea is that the poor spend a large proportion of their income on them so that a reduced or even zero rate³¹ offers relief. However, this policy is inferior to pursuing redistribution through other tax and spending policies since it is poorly targeted. For instance, as the rich spend a larger absolute amount on such goods, a large portion of the benefits from a reduced rate accrue to them. Moreover, differential rates significantly complicate VAT administration and cause complexity in defining what goods precisely fall under the reduced rate. Spending measures, such as transfers in cash or in kind, are considerably more efficient to achieve distributional objectives than reduced VAT rates. In developing countries, where the availability of these spending instruments is less common, some reduced VAT rates can be justified on equity grounds—albeit at a high revenue cost.³²

Impose environmental taxes

A key efficiency reason for differential consumption taxation is due to externalities. They arise if the consumption of a good affects the wellbeing of those not involved in the underlying transaction. Environmental damage, such as climate change, is the leading example of a negative externality. The corrective tax, also called a Pigouvian tax, is designed to internalize the external cost of a transaction in the price (i.e. “setting the price right”) so

³¹ A zero VAT rate differs from a VAT exemption in that it allows for crediting of input VAT.

³² Sometimes, reduced VAT rates can have the opposite distributional effect. For example, OECD (2014) finds that reduced VAT rates on restaurant food and hotel accommodation tend to benefit the rich more than the poor.

that agents change their behavior in the desired direction, e.g. by reducing pollution.³³ Pigouvian taxes generally come on top of broad-based consumption taxes and should be imposed per unit of consumption, at a level directly related to the external costs—such as the social cost of carbon emissions in the case of climate externalities.

As environmental taxes can be regressive, their introduction may require offsetting tax or spending measures to compensate poor households. In advanced economies, environmental taxes (including on energy) raise around 1.5 percent of GDP in revenue; in developing countries this is usually lower. In many countries, there is significant potential for these taxes to yield more revenue while also improving environmental quality. For example, in the EU, environmental taxes raise around 2.5 percent of GDP. This seems to have had no negative impact on economic growth. For instance, a recent study by Metcalf and Stock (2020) finds no evidence for negative growth effects of carbon taxes in Europe.³⁴ A carbon tax of \$75 per ton, necessary to meet the Paris climate objectives, has been estimated to yield more than 1.5 percent of GDP in G20 countries.

Use specific excises

Excises on alcohol, tobacco and unhealthy food (‘sin goods’) are generally motivated by related social concerns—although not strictly speaking externalities. Bounded rationality of households and lack of self-control may justify government intervention in the pricing of these addictive commodities—although such arguments are not undisputed. Most countries use excises on these products as part of their policy to improve health outcomes, but revenue raising objectives are important as well. For developing countries, these excises can have special appeal as concentrated production and high import shares make administration relatively easy. Revenue from excises (including on fuel products) varies from an average of 1 percent of GDP in low-income countries to around 2.5 percent of GDP in advanced economies. Over time, revenue has often declined in several countries due to a lack of indexation of the specific (i.e. per unit) rates, which causes revenue to fall with inflation. In many countries, there is scope to raise significantly more revenue from excises without adverse distributional effects (Cnossen 2020). Indeed, while excises tend to bear relatively more heavily on people with low incomes, this only holds in advanced economies and not for developing countries. Special excises on luxury goods, such as yachts, jewelry or perfumes usually contribute little to achieving equity objectives, raise little revenue, and add to administrative costs. The exception is excises on motor vehicles, which can raise sizable amounts and are generally progressive.

VIII. How to make it happen?

This paper suggests that many countries have scope to promote inclusive growth through tax reform. Policy recommendations vary by country, yet some reform options are common. For

³³ Instead of a corrective tax, externalities can also be priced through a cap and trade scheme, such as the emission trading scheme in the European Union.

³⁴ For a more in-depth analysis and discussion of pricing climate externalities, see IMF (2019a).

advanced and some emerging market economies, promising options include a more progressive PIT system, more neutral taxation of capital and corporate income, improvements in VAT design, and more/better use of carbon taxes, property taxes and taxes on inheritances. Developing countries should first and foremost enhance their administrative capacity. Yet, they could also often improve and simplify their VAT and excise policies, better protect their income taxes against avoidance and evasion, reduce discretionary tax incentives, enhance their fiscal regimes for extractive industries, and better exploit taxes on property and pollution.

Successfully achieving a welfare-improving tax reform is a difficult task, however, due to complex political-economy dynamics and various institutional constraints. Indeed, large discrepancies can be observed between prescriptions by tax theory and the actual tax practice of countries. Recently, surveys have been used to better understand these discrepancies, thereby looking at the determinants of people's support for redistributive tax policies (Stantcheva 2020). It appears that this depends critically on people's perceptions and beliefs, which may differ considerably from reality. For instance, people often have (very) limited knowledge about the tax system and perceptions differ greatly from reality. Also mistrust in government plays an important role for people's views on redistribution. These findings point to a critical role of the management of tax policy reform by governments.

Managing a successful tax reform strategy in support of inclusive growth requires at least consideration of the following 10 issues.³⁵

Ensure strong political commitment and leadership

Tax reform affects all factions of society and will need the support from the entire government—calling for a “whole-of-government approach”. The Minister of Finance is usually responsible for the management of the tax system and should have the clear and unconditional leadership of the reform effort. In many countries, a permanent or temporary committee chaired by the Minister of Finance and supported by technical working groups, brings together all stakeholders from the public sector to reflect the different interests.

Build consensus and generate public support

Gaspar et al. (2016b) find that, aside from credible leadership, inclusive politics and constitutive institutions are vital elements of tax capacity building. Indeed, it is essential to hold extensive political consultation with multiple stakeholders in society, such as businesses, tax professionals, civil society organizations, local governments, academic researchers, think tanks, etc. Consultative discussions might not create unanimous approval or support, but will instill in society a sense of country-wide ownership. Some groups in society might not be well-organized or integrated into the formal economy—often low-income groups that could benefit most from measures to support inclusion. This may require

³⁵ The management of tax system reform is one component of the so-called Medium-Term Revenue Strategy (MTRS), a concept developed by the Platform for Collaboration on Tax (PCT) and being implemented by several countries with support from PCT members, see <https://www.tax-platform.org>.

special attention from the government. Other groups can be very well organized and could even become a stumbling block to the reform if they aim to protect vested interests—often the more affluent who can e.g. oppose increases in tax progression. Managing these political differences requires forceful leadership and strong communication.

Develop a clear and broad communication strategy

The communication campaign should develop a narrative to position the tax reform as a government-led and country-owned strategy that aims to support inclusive growth, emphasizing the benefits to society at large. The government should mobilize representatives from the public sector, the private sector, business associations, religious leaders, community representatives and the mass media, to signal broad consensus across the wider community and involve them in the communication.

Emphasize the joint impact of taxes and expenditures

It is generally difficult to pursue a revenue-raising structural tax reform due to opposition from those who will be taxed more. Sometimes, this is due to a too narrow focus on the tax burden, without looking at the broader implications on the spending side. To convince the general public of the need and desirability of revenue-raising tax reform, it is critical to emphasize the additional expenditures they help finance. This joint impact of tax and spending can be progressive and supportive of inclusive growth, even if some of the individual taxes are regressive. Earmarking of taxes for specific expenditures should be avoided, however, since it can lead to inefficient spending decisions.

Quantify the impact of the reform

An evidence-based quantitative impact assessment is essential for several reasons. Quantification will help structure the debate and rationalize discussions among stakeholders—which might otherwise be dominated by vague statements or loose beliefs. Analysis of the impact on revenue, the income distribution and the economy will also help policy makers design the reform in the best possible manner. This enables the government to convince stakeholders that the reform is both inclusive and growth friendly. Quantitative analysis also supports the transparency and accountability of the reform process and ultimately helps build trust in government.

Use opportunities during good times

Tax reforms have been most successful when undertaken during good times, when a reduction in the overall tax burden can be used to compensate losers. For example, growth friendly tax reforms—characterized by rate reductions and base broadening—took place in the 1980s in the US and UK. Countries in continental Europe successfully moved their tax burdens in the 1990s away from direct toward indirect taxation. While growth friendly, not all these reforms were inclusive, however, and some may have increased income inequality.

Use opportunities during bad times

During or after a crisis, policymakers under pressure may rush into measures that risk damaging inclusive growth, e.g. through quick fixes like tax rate increases or the introduction of new distortive transaction taxes. However, in some countries a crisis paved the way for the introduction of long-lasting structural reforms that support inclusive growth. Indeed, crisis times may offer an opportunity for reform as the urgency facilitates political agreement among different actors. Special temporary levies on top income earners and corporate profits, for instance, have been introduced in Germany to cover the costs of unification and in Japan to finance the reconstruction efforts after the 2012 earthquake. Also the COVID crisis triggered a debate on the use of such levies to cover the increased debt—perhaps as a structural measure to increase tax progression.

Sequence reforms well

Tax reforms can be either incremental or comprehensive. Incremental reforms have the advantage that they avoid large shocks in incomes or asset prices and that people can anticipate them. For instance, reforms in the taxation of housing are often incremental to avoid large disruptions in house prices. However, incremental tax reforms might not be credible if their time span is too long as they can be hard to be sustained politically. Indeed, interest groups will have time to mobilize opposition and find ways to block those reforms. A comprehensive reform might be more difficult to achieve, however, although has the appeal of creating package deals whereby the income effects of some tax measures can be offset against others. Especially when there is space for tax relief, structural improvements might thus be achieved. Some sequencing in the reform process, even under a comprehensive reform, might still be desirable to avoid too many changes for taxpayers and tax administrations at the same time, which can impose a large burden on them.

Recognize institutional constraints

Revenue agencies responsible for the implementation of the tax system should participate in the reform process, e.g. as core members of the tax reform committee. This ensures that concerns about enforcement of a reformed tax system are recognized and accounted for in the reform strategy. For instance, some reforms may introduce excessive complexity, impose undue compliance costs, or require (third-party) information that is not yet available. Legal drafting experts are also essential for the reform process to ensure that tax laws are clear and unambiguous and that they ensure tax certainty. In some countries, decentralized fiscal powers (e.g. States, provinces or municipalities) can create obstacles to the reform process or for its implementation and their interests should also be integrated into the reform management process.

Build effective administrative capacity

Capacity constraints in tax and custom administrations are often major obstacles to revenue mobilization in developing countries. Clearly, revenue administrations should have sound management and governance arrangements and modern process/systems to manage core tax

functions. And enforcement generally benefits from simple, clear, and transparent legislation (including procedural and administrative regulations), remittance and withholding regimes at adequate point of collections, taxpayer segmentation strategies, and large scale information cross-matching based on extensive use of third party information. Administrative considerations should play a key role in the design of tax reform, e.g. with major focus on simplicity, voluntary compliance mechanism and easy collection by use of withholding. Reforming the tax administration to deal with new or modified tax laws usually takes time to bear fruit, especially if they require major changes in how people work and in administrative processes. Experience is therefore that revenue effects of tax reform often occur with a time lag.

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