Taxes, Transfers, and Subsidies: Improving Progressivity and Reducing the Cost to the Poor

Summary

Taxes, transfers, and subsidies are core components of fiscal policy, and their potential effect on household welfare is considerable. This chapter considers their immediate impact on the amount of money households have and the prices they face. These potential impacts are even more important during this time of fiscal consolidation, when revenues need to be raised and spending needs to be cut or redirected.

Only in recent years has the immediate impact on households of taxes, transfers, subsidies, and spending on human capital been analyzed in a consistent and relatively comprehensive manner across low- and middle-income economies, thanks to the widespread use of the Commitment to Equity tool for fiscal incidence analysis. This chapter brings together this analysis of 94 economies for the most comprehensive exploration across all regions and income levels of what has been learned.

Taken together, taxes, transfers, and subsidies reduce inequality in all economies and finance spending on security, health, education, and investments for growth and poverty reduction. However, although high-income economies effectively ensure that taxes, transfers, and subsidies do not reduce the income of poor households while they finance long-run spending, this is not the case in low- and middle-income economies. In two-thirds of low- and middle-income economies, the income of poor households is lower by the time they have paid taxes and received transfers and subsidies. This drop occurs because taxes are predominantly collected through indirect taxes, and transfers are too low to compensate. Subsidies often take up much more fiscal space than targeted transfers, but they are poorly targeted to poor households.

In each income group, some economies did more to reduce both inequality and poverty even before COVID-19; however, the pattern across income categories highlights that, although good and bad policy choices exist, it is a challenge to raise revenues without lowering the incomes of poor households when an economy has a large informal sector and limited safety net coverage. More revenues can be raised from progressive forms of taxation, even in an informal economy, but in many economies a combination of nonprogressive taxation with generous and well-targeted transfers can

also be effective. Regardless of the tax mix, spending needs to transition from poorly targeted subsi-
dies and tax expenditures to better-targeted transfers, although subsidies are popular and hard to
remove once in place. Finally, poorer economies can take advantage of new data and technology to
make both revenue generation and transfers more progressive, achieving through fiscal policy the
degree of inequality and poverty reduction that today's rich economies took decades to achieve.

Introduction

Fiscal policy has many roles: generating revenues to finance the core business of government, providing public goods and services, achieving macroeconomic stabilization, helping to dampen the impact of adverse shocks, stimulating economic growth, and helping to reduce poverty and inequality.[1] The optimal balance will depend on the country context and society's preferences. This chapter focuses on the potential of one part of fiscal policy—taxes, transfers, and subsidies— to reduce poverty and inequality in the short run.

Taxes, transfers, and subsidies are key government instruments for addressing poverty and inequality. Typically ranging from 10 percent to 25 percent of gross domestic product (GDP) in developing economies, the potential effect on household welfare is considerable. In addition to long-run impacts (see chapter 6), they also have an immediate effect on the money that households have and on the prices they face. That is the focus of this chapter. However, the distributional impact of taxes and transfers varies significantly across economies. Understanding the extent to which taxes and transfers are redistributive in different regions and across income levels can help individual economies benchmark their current fiscal system and learn how it could become more progressive. Fiscal incidence analysis indicates who benefits from fiscal policy in the short run and by how much, allowing an assessment of how equalizing it is.

As countries navigate the COVID-19 crisis and seek renewed economic growth, mostly from positions of increased fiscal pressure, questions about how they can generate greater revenues without imposing a heavy burden on the poor and vulnerable, and how they should spend and invest revenues to benefit the poor, are more relevant than ever. In particular, many countries are assessing how to better provide income support in the short run in a well-targeted manner. The lessons of this chapter, although developed from an analysis of fiscal policies from before 2020, identify the options available to countries with the types of fiscal systems and economic structure they have, and will hopefully help guide policy makers toward an inclusive recovery.

It is only recently that fiscal incidence analysis has been conducted in enough low- and middle-income countries in a comparable manner so as to allow a comparative cross-country picture of the impact of taxes, transfers, and subsidies on inequality and welfare. This progress is a result of the wide use in recent years of the Commitment to Equity (CEQ) approach to fiscal incidence analysis.[2] CEQ is a diagnostic tool that helps identify how fiscal policy affects equity (see box 5.1).[3] The methodology is described in Lustig (2018) and has now been implemented in more than 80 economies, largely by the CEQ Institute and the World Bank (this chapter complements the CEQ data with separate Organisation for Economic Co-operation and Development [OECD] data to reach 94 economies in total). In March 2020, one of the main CEQ indicators, which measure how much fiscal policy reduces inequality, was adopted as Sustainable Development Goal 10.4.2, establishing a new global standard for assessing government effectiveness in tackling inequality (see Lustig, Mariotti, and Sánchez-Páramo 2020). This chapter draws on the data resulting from the implementation of the CEQ tool, allowing the most comprehensive assessment of the impact of taxes and transfers on inequality and poverty across low- and middle-income economies, building on the 29-economy study in Lustig (2018).

Data on the distributive impacts of taxes, transfers, and subsidies come from the CEQ Institute, OECD, and World Bank databases, which collectively cover 94 economies over the past decade across all income groups and regions, to varying degrees.[4] In general, the databases focus on direct household taxes and indirect taxes on consumption as well as direct transfers to households, spending on health and education, and energy and food subsidies. Agriculture subsidies are sometimes

BOX 5.1

The CEQ framework: An integrated approach to fiscal incidence analysis

The Commitment to Equity (CEQ) approach addresses how taxes and spending affect different households and how various fiscal objectives and reforms might be achieved in a progressive manner. The CEQ approach assesses household welfare before the payment of any taxes or receipt of any public spending benefits. It then applies each tax and transfer systematically to build a picture of how each fiscal instrument and the system as a whole affect monetary poverty and inequality, using the same nationally representative household surveys underpinning part 1 of this report. The framework is outlined in figure B5.1.1 (simplified from Lustig 2018; see online annex 5A for a more complete diagram including different treatments of pensions and their contributions), which shows how fiscal policy affects household income through different taxes and transfers.

Prefiscal household welfare is based on households' market income—how much they earn and receive from private transfers and remittances, as well as social security pensions. At this starting point, standard measures of welfare—such as the poverty headcount rate and the Gini index of inequality—can be estimated, serving as the baseline distributional measures before households interact with fiscal policy. Each household then receives direct transfers and pays income taxes. Households may also benefit indirectly by buying some goods or services at subsidized prices and paying taxes indirectly, because most goods and services have value added tax or goods and services tax added. Finally, they can receive in-kind benefits by sending their children to school or using public health services, for which they might pay a fee as well. The CEQ approach reassesses household welfare, because each tax or transfer is modeled to understand how poverty and inequality change with each fiscal instrument and to measure the overall impact of the fiscal system.

FIGURE B5.1.1

CEQ framework: Fiscal policy impacts on household income through taxes and transfers
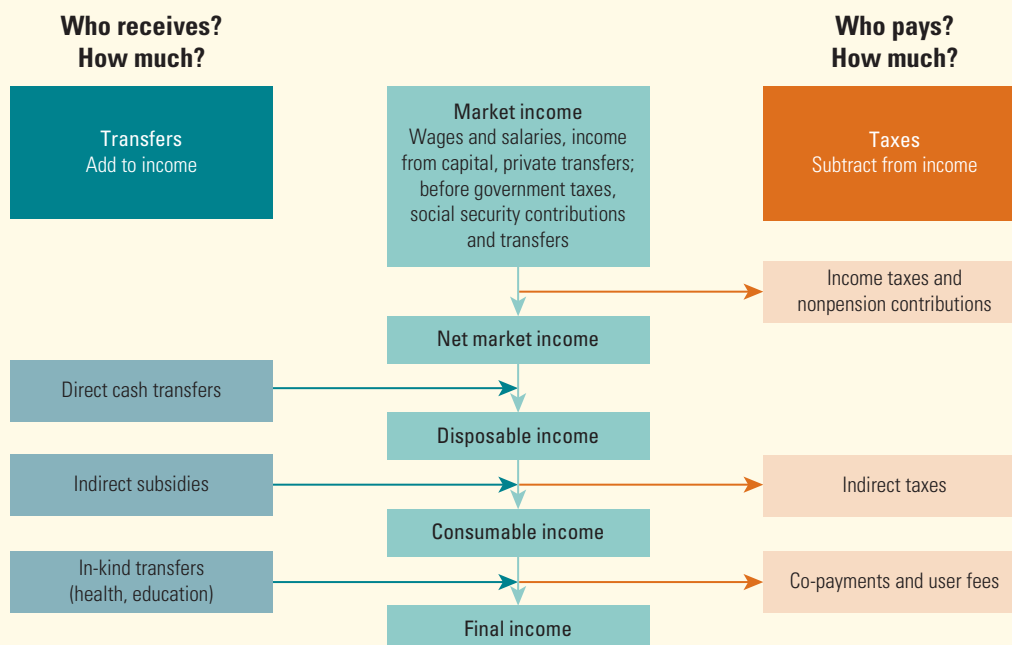
Source: World Bank, simplified from Lustig 2018.

(continued)

The CEQ framework: An integrated approach to fiscal incidence analysis *(continued)*

In economies where the household survey measures income, market income is constructed directly and is in fact the same welfare measure as that used in part 1 of this report to measure poverty. In most economies, however, surveys instead measure consumption, which is used to estimate official poverty and inequality. In this case, household consumption from the survey is equated with disposable income in figure B5.1.1. Lustig (2018) discusses how the CEQ approach varies with income and consumption surveys.

As described previously, pension income is considered part of prefiscal market income. In this approach pension contributions are treated as compulsory savings and not a direct tax. However, pensions can be treated as a government transfer instead of deferred income from previous savings. In this case a household's market income is only that from nonpension sources, and pension contributions are treated as a tax. All data in this chapter largely treat pensions as outside of the fiscal redistribution system. The difference in approach makes little difference in low-income economies but becomes particularly important for upper-middle-income economies. Online annex 5A gives a more complete account, along with a fuller discussion of why the preferred set of results treats pensions as deferred income.

The CEQ framework has two important advantages. First, it assesses both tax and expenditure policies, and examines their joint rather than individual effect. Second, it uses a standardized methodology, making it comparable across economies and time and allowing international benchmarking. However, it is also important to note what the CEQ framework does not do. It does not include behavioral effects (such as consumer substitution and labor market decisions, although it does model tax evasion and non-take-up of social benefits), general equilibrium effects (such as the multiplier effect of cash transfers on the economy and the second-round tax effects it may create), or intertemporal effects (such as the long-run benefits of public education). Nor does it cover all taxes and spending or all people. In particular, it does not generally include corporate income tax or infrastructure spending and can suffer from low coverage of the richest people, who are often underrepresented in household surveys. Typically, CEQ analyses include personal income, value added, and excise taxes—which average about 63 percent of tax revenue collected—and transfers, subsidies, and health and education spending—which average about 38 percent of expenditure (based on data from 19 CEQ analyses that report these shares).

The chapter focuses on changes between market income, disposable income, and consumable income, when the CEQ data are reasonably comprehensive. Even then, the value of revenue included is greater than the value of spending included. This difference does not reflect missing data or methodological shortcomings but rather reflects the nature of the income concepts used in the CEQ, which focuses on understanding the short-run changes in monetary measures of poverty and inequality. It does so because spending on in-kind services such as health and education (included in the CEQ) or security (not included in the CEQ), despite having an immediate impact on nonmonetary poverty, does not have an immediate impact on monetary welfare measures used in this chapter. As chapter 6 discusses, these investments have impacts on income measures in the long run, but they do not have an immediate income effect that can offset the reduction in income brought about by taxes. As a result, consumable income—used often in this chapter—includes personal income, value added, and excise taxes (9–12 percent of GDP) and spending on subsidies and transfers (typically 3–8 percent of GDP).[a] Consumable income should be on average about 4–6 percent lower than market income. The analysis examines whether changes in income are overall equalizing (reducing the Gini) and whether the poorest households are experiencing reductions in income (increasing poverty).

a. These ranges reflect the range from low-income economies to non-OECD (Organisation for Economic Co-operation and Development) high-income economies. Specifically, the revenue included as a share of GDP is 9 percent in low-income economies, 10 percent in lower-middle-income economies, 11 percent in upper-middle-income economies, and 12 percent in non-OECD high-income economies. The spending included as a share of GDP is 3 percent in low-income economies, 4 percent in lower-middle-income economies, 5 percent in upper-middle-income economies, and 8 percent in non-OECD high-income economies.

TABLE 5.1

Number of fiscal incidence studies, by region and income category

	OECD	HICs	LICs	LMICs	UMICs	Total
Advanced economies	31	—	—	—	—	**31**
East Asia and Pacific	—	—	—	2	2	**4**
South Asia	—	—	—	2	—	**2**
Europe and Central Asia	2	2	1	3	7	**15**
Latin America and the Caribbean	1	2	—	4	11	**18**
Middle East and North Africa	—	—	—	2	2	**4**
Sub-Saharan Africa	—	1	8	8	3	**20**
Total	**34**	**5**	**9**	**21**	**25**	**94**

Sources: CEQ Data Center on Fiscal Redistribution, https://commitmentoequity.org/datacenter; OECD; World Bank.
Note: OECD studies include direct taxes and transfers but not indirect taxes and subsidies or in-kind health and education spending. All other columns are CEQ studies, which represent all regions and income categories. Where both OECD and CEQ fiscal incidence data are available, OECD data are used; see endnote 6. HICs column includes all high-income countries that are not part of the OECD; HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; OECD = Organisation for Economic Co-operation and Development; UMICs = upper-middle-income countries; — = not available.

included, as are employer-paid health insurance, and individual economy reports may include childcare investments or subsidies. However, active labor market policies are excluded,[5] as are corporate income tax (CIT), infrastructure spending, and many tax incentives. Importantly, data for OECD economies include only direct taxes and transfers, not indirect taxes or subsidies. Data for the 94 economies (table 5.1) include 9 low-income countries (LICs), 21 lower-middle-income countries (LMICs), 25 upper-middle-income countries (UMICs), 5 non-OECD high-income countries (HICs), and 34 OECD HICs (for the 5 economies for which both CEQ and OECD data are available, OECD data are used[6]). In terms of regional coverage, the data include 20 Sub-Saharan Africa economies, 18 from Latin America and the Caribbean, 15 from Europe and Central Asia, 4 from East Asia and Pacific, 4 from the Middle East and North Africa, and 2 from South Asia.[7] The earliest included study is from 2009, with 40 up until 2015 and 54 since.

Tax and spending levels for a broader set of economies than for which CEQ data are available are drawn from international databases.[8] The International Centre for Tax and Development database contains tax revenues as a percentage of GDP for most economies (beyond the 94 for which there are fiscal incidence data), both in aggregate and by tax instrument. No similarly comprehensive database exists for fiscal expenditures; this chapter has constructed new data aggregates from the World Bank BOOST database and the International Monetary Fund Government Finance Statistics database (which cover 129 economies between them). Additional data on agriculture subsidy spending come from the IO Consortium Database (79 economies), on energy subsidy spending from the International Institute for Sustainable Development (154 economies), and on tax expenditures from the Global Tax Expenditures Database.[9]

The impact of taxes and transfers on short-term poverty and inequality

Taxes and spending reduce inequality in all economies but less in low-income than in high-income economies

This section looks at how household welfare changes across economies when different taxes and transfers (including subsidies) are accounted for. In particular, inequality has been estimated for three different concepts of income: market income (before any fiscal policy), disposable income (after direct taxes and transfers), and consumable income (disposable income after indirect taxes and subsidies as well). The change in inequality between these different income concepts quantifies the distributional impact of taxes and transfers, both in aggregate and by different

instrument types. A similar exercise was conducted for poverty. This section also looks at how the inequality picture changes once spending on education and health is included, but the incidence of education and health spending is addressed more fully in chapter 6.

Before turning to the findings, there are two important points to bear in mind about the focus of the analysis. First, this chapter focuses on the short-run impact of taxes, transfers, and subsidies on inequality and poverty. It does not explore the role of fiscal policy and other policies in addressing the factors that cause inequality, such as active labor market policies, directed technological change, competition, and corporate governance policies (see, for example, Atkinson 2016). Second, the degree to which taxes, transfers, and subsidies reduce inequality will in part be a function of prefiscal income inequality. For example, the analysis presented in this chapter shows that South Africa achieves the greatest absolute reduction in inequality through taxes and transfers, but it also has the highest levels of inequality before taxes and transfers. Taxes and transfers do a lot to reduce inequality there, but inequality remains high. Taxes and transfers in the Kyrgyz Republic do relatively little to reduce inequality, but the level of inequality before taxes and transfers is lower than in many other economies analyzed.
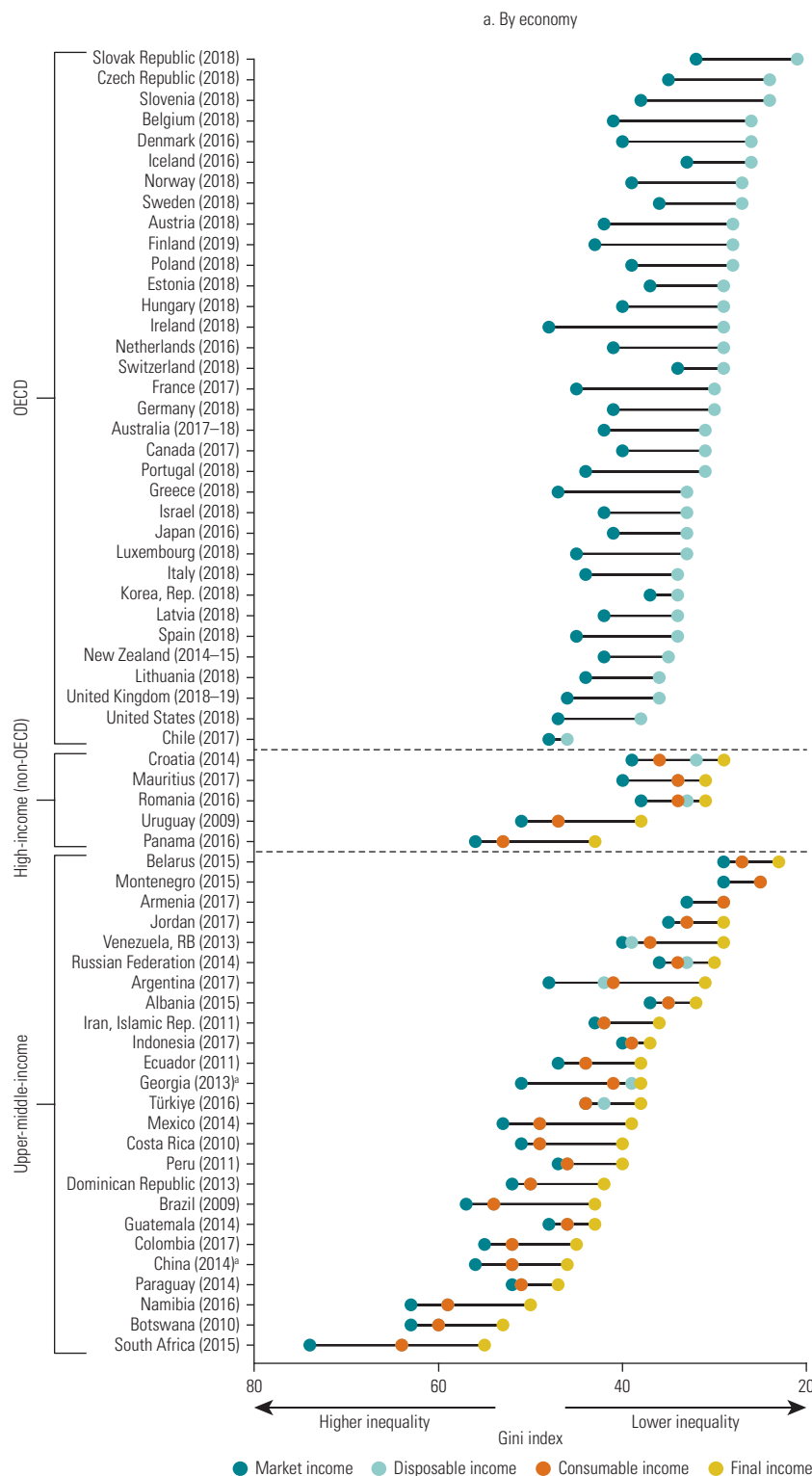
All economies achieve at least some redistribution through taxes and transfers, but the extent varies significantly, both between different income levels and particularly within them. Figure 5.1, panel a, provides a comprehensive international snapshot of the distributional effects of taxes, transfers, and subsidies.[10] Whereas the rest of the chapter presents patterns aggregated to income levels (LIC, LMIC, UMIC, HIC, and OECD), this figure highlights the variation of outcomes across economies. A key feature to note is that, in addition to obvious differences between country income categories, considerable variation also occurs within income categories: they have different starting levels of inequality, they achieve different levels of fiscal redistribution, and they end up at different postfiscal levels of inequality. For example, prefiscal (market) inequality spans 17 points for LICs, from 32 to 49; 36 points for LMICs (23 to 59); 45 points for UMICs (29 to 74); and 18 points for HICs (38 to 56). Similar within-income category ranges occur in final income inequality: 15 points for LICs (32 to 47), 28 points for LMICs (22 to 51), 32 points for UMICs (23 to 55), and 14 points for HICs (29 to 43). The consequent degree of fiscal redistribution varies by income group, ranging from 0 points to 4 points in LICs, from 1 point to 14 points in LMICs, from 3 points to 19 points in UMICs, and from 7 points to 13 points in HICs.

Nonetheless, key patterns emerge across income groups. First, taxes, transfers, and subsidies in richer economies reduce inequality to a greater extent than in poorer ones. Despite the wide variation in both starting inequality and degree of fiscal redistribution that exists within each income category, there are some important regularities (figure 5.1, panel b):

- *Prefiscal inequality is relatively low for LICs, higher for LMICs and UMICs, then lower for HICs.* The average Gini before taxes and transfers in LICs is relatively low (36 points), increases for LMICs (42) and UMICs (48), and falls back for HICs (40 in non-OECD and 41 in OECD). This result resembles the famous Kuznets curve, in which inequality has an inverse U-shaped relationship with income, rising and then falling as economies get richer.

- *Average redistribution increases with income.* OECD economies do the most redistribution through taxes and transfers (12 points);[11] HICs redistribute more in through taxes and transfers (4.5 points) and through health and education spending noncash (4.8 points) than UMICs (3.9 points and 4.4 points), which do more than LMICs (3.3 points and 2.4 points), and LICs (0.7 point and 2.4 points).

- *Direct taxes and transfers always reduce inequality.* Direct taxes and transfers are the main channel for redistribution in HICs and OECD economies.

- *Health and education spending also reduce inequality in all economies.* In-kind spending is the most important source of redistribution in developing economies (data are not available for OECD economies).

- *Indirect taxes and subsidies have a more mixed redistributive impact.* Taken together, they are modestly redistributive in UMICs (0.5-point decrease) and LMICs (0.8-point decrease), neutral in LICs, and regressive in HICs (1.1-point increase).

Taxes, transfers, and subsidies reduce inequality in all economies, but in different ways, from different starting positions, and to different degrees

a. By economy

Market income   Disposable income   Consumable income   Final income
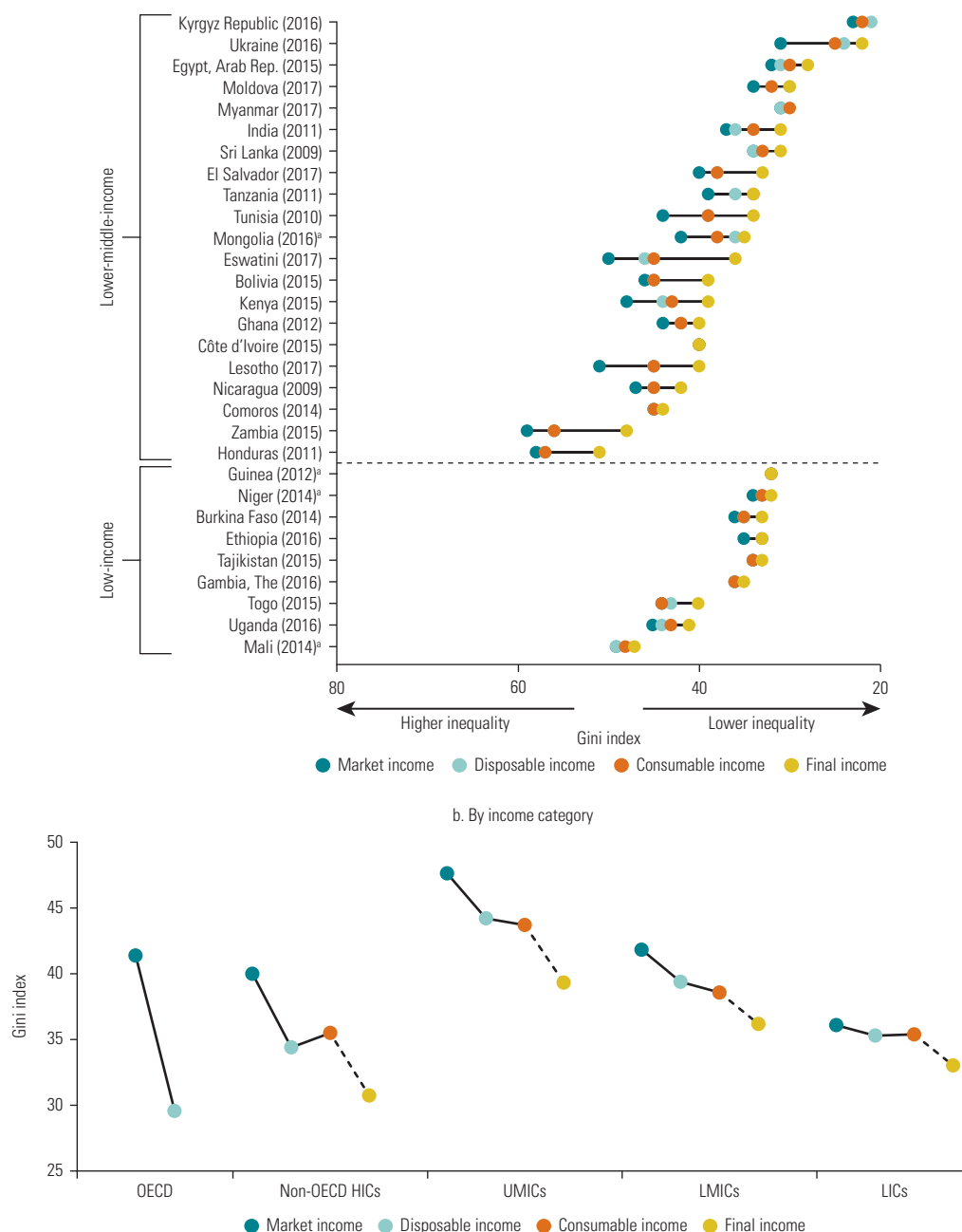
(continued)

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FIGURE 5.1

Taxes, transfers, and subsidies reduce inequality in all economies, but in different ways, from different starting positions, and to different degrees *(continued)*

Sources: Original estimates based on data from CEQ Institute, CEQ Data Center on Fiscal Redistribution, https://commitmentoequity.org /datacenter; OECD data; World Bank data.

Note: Panel a shows the Gini index in each economy at market income, disposable income (with direct taxes and transfers), consumable income (with indirect taxes and subsidies), and final income (with health and education spending). Panel b shows the same measures aggregated by income group. OECD countries form a separate group and have data for market and disposable income only. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; OECD = Organisation for Economic Co-operation and Development; UMICs = upper-middle-income countries. In this figure, economies are categorized using the 2020-21 income categorization.

a. Pensions treated as government transfers.

Taken together, taxes, transfers, and subsidies reduce the income of poor households in most low- and lower-middle-income economies

The second key pattern is that fiscal policy can leave poor households with lower incomes in the short term, even though revenues might be used to finance goods and services that reduce the poverty of these households in the long term—such as through spending on education and infrastructure. In the short term, households pay taxes and benefit in cash terms from direct transfers and subsidized goods and services. They also benefit from in-kind benefits from spending on health, education, and infrastructure (panel b of figure 5.1 shows health and education spending often benefits poorer households). However, because households do not receive health, education, infrastructure, and other services in cash, they do not increase their monetary incomes today. Consequently, it is possible for fiscal policy to reduce poverty in the long run through investments in human capital accumulation and from the benefits of infrastructure spending while leaving households poorer today. That is, households can have lower real incomes in the short term after paying taxes, and receiving transfers and subsidies. Even when such payments to and from the state do reduce the incomes of poor households, they may still reduce inequality. Inequality decreases if richer households pay proportionally more tax than poorer households relative to what they receive in cash benefits.
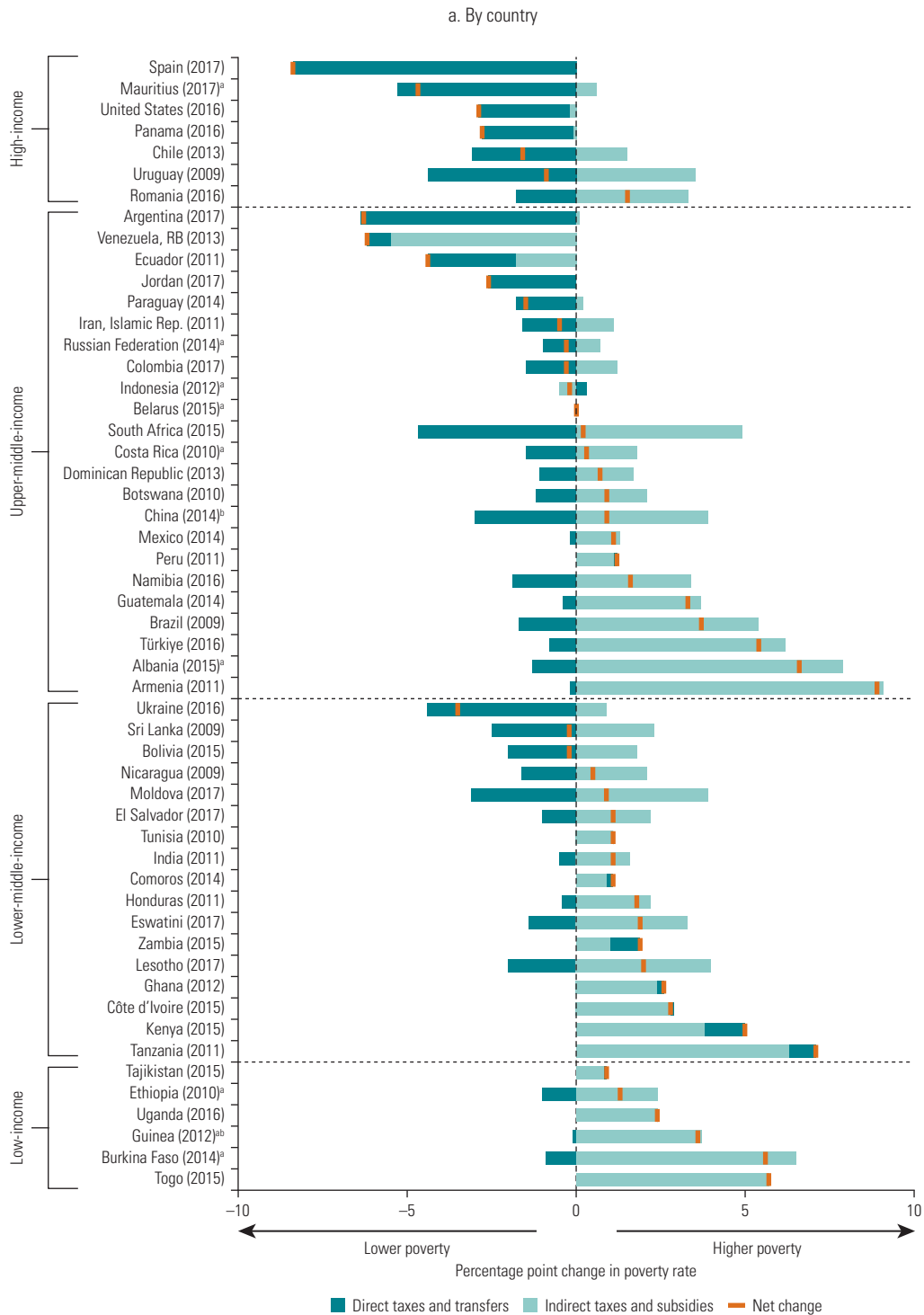
Indeed, although taxes, transfers, and subsidies reduce inequality in all economies to some extent, they lower incomes for the poor in the short term in most developing economies.[12] HICs reduce short-term poverty by 2 points on average (figure 5.2, panel b), mostly through direct transfers; indirect taxes reverse some of the gains and, in the case of Romania, increase poverty (figure 5.2, panel a). For all other income categories, poorer households are worse off on average in cash terms after taxes, transfers, and subsidies, and consequently poverty increases in the short-term. Moreover, even in countries where poverty is reduced, some households still are poorer because of payments to and from the state.[13]

What drives this result? In the majority of UMICs (14 of 23) and LMICs (14 of 17), the burden of indirect taxes generally offsets the benefit of direct transfers and subsidies in low-income deciles, and poverty increases slightly (by 0.1 point in UMICs and 1.6 points in LMICs).[14] In LICs, direct transfers are so small that the combined effect is to increase short-term poverty in almost all economies, by 1.2 points on average (although the extent of the impact will depend on how informal consumption is treated; see later discussion).

Thus, taxes, transfers, and subsidies can both reduce inequality today and finance spending while also placing a short-term burden on currently poorer households. This effect can be seen by comparing consumable income (income after taxes, transfers, and subsidies) to market income for each decile. Figure 5.3 shows the median of this ratio by decile for HICs, UMICs, LMICs, and LICs. On average, HICs and UMICs leave the poorest three deciles with more cash in hand than before taxes and cash benefits. Similarly, the poorest decile in LMICs ends up with more cash than its prefiscal income, but the second decile and above have less income after paying taxes and receiving transfers and subsidies. All deciles in LICs have less consumable income than market income. Although figure 5.3 shows a stark contrast across income categories, in most income categories some economies leave the poorest deciles with more consumable income than market income through the design of their tax, transfer, and subsidy systems. Uruguay (HIC) and Bolivia (LMIC) do so, and Ethiopia (LIC) finances long-term public investments while minimizing the impact on poverty; these countries are discussed further below.[15] The next section looks at the role that individual taxes and transfers play in shaping these outcomes.
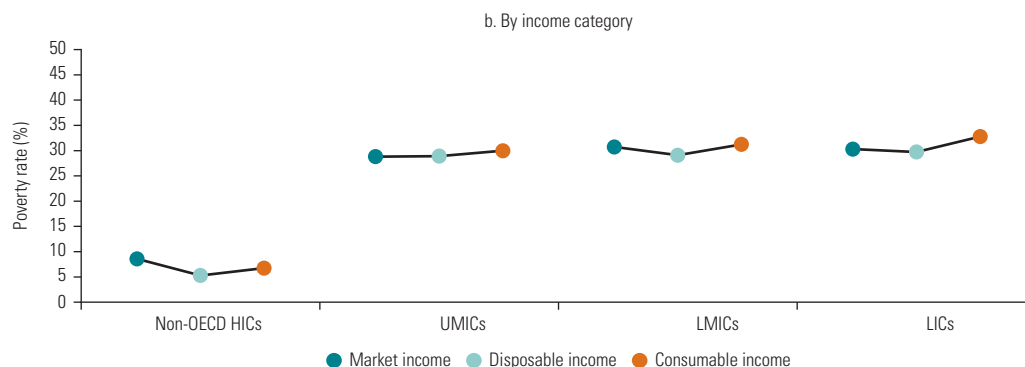
Taxes, transfers, and subsidies increase short-term poverty in a majority of non-HICs

a. By country

(continued)

Taxes, transfers, and subsidies increase short-term poverty in a majority of non-HICs
(continued)

b. By income category

● Market income   ● Disposable income   ● Consumable income

Sources: Original estimates based on data from CEQ Institute, CEQ Data Center on Fiscal Redistribution, https://commitmentoequity.org /datacenter; OECD data; World Bank data.
*Note:* Panel a shows the percentage point change in poverty rate in each economy due to direct taxes on income and transfers to households, indirect taxes (such as value added tax) and subsidies that change the prices people face, and the net change due to both. Panel b shows the poverty rate at (prefiscal) market income, disposable income (adding direct taxes and transfers), and consumable income (adding indirect taxes and subsidies), aggregated by income group using the median. The income group's relevant international poverty line is used (in 2011 PPP, US$1.90 a day for LICs, US$3.20 a day for LMICs, US$5.50 a day for UMICs and non-OECD HICs). HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; OECD = Organisation for Economic Co-operation and Development; PPP = purchasing power parity; UMICs = upper-middle-income countries. In this figure, economies are categorized using the 2020-21 income categorization.
a. Poverty measured with 2005 PPP poverty lines.
b. Pensions treated as government transfers.

Taxes, transfers, and subsidies increase consumable income for the poorest households at all income levels except LICs
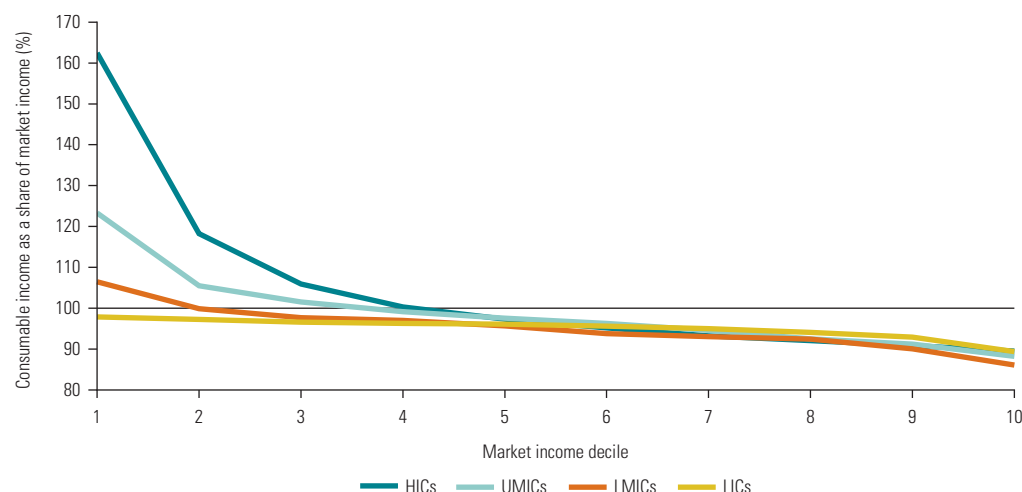
━━ HICs   ━━ UMICs   ━━ LMICs   ━━ LICs

Sources: Original estimates based on data from CEQ Institute, CEQ Data Center on Fiscal Redistribution, https://commitmentoequity.org /datacenter; Organisation for Economic Co-operation and Development data; World Bank data.
Note: The figure shows consumable income (income after direct and indirect taxes have been paid and cash transfers and subsidies have been received) as a percentage of market income (income before any taxes have been paid or transfers or subsidies received) by market income decile, aggregated by income group using the median. The sample includes 5 HICs, 19 UMICs, 16 LMICs, and 3 LICs. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; UMICs = upper-middle-income countries.

Taxation and distribution

Richer economies collect most revenue from direct taxes; poorer economies rely on indirect taxes

As countries get richer, they collect more in tax revenues and the tax mix changes to include a greater share of direct taxation, such as personal income tax (PIT). On average UMICs and HICs collect 20 percent of GDP in taxes, and LICs just 12 percent, compared with 33 percent for OECD economies. Which specific taxes drive this gap in revenue collection? Figure 5.4 breaks down total revenue by type of tax (see box 5.2); it also shows nontax revenues and grants although they are excluded from CEQ analyses. Indirect taxes collect similar amounts across development stages, about 7–10 percent of GDP. Poorer economies rely a little more on international trade taxes and a little less on value added tax (VAT) and excise taxes. The key difference in tax revenues arises from direct taxation, equivalent to 5–7 percent of GDP in LICs and LMICs and 10–11 percent in UMICs and HICs, compared with 23 percent in OECD economies. Within direct taxes, CIT is relatively constant, at 2–3 percent of GDP, with the main increase in direct taxation for OECD economies coming from PIT, payroll taxes, and social security contributions, which represent 7.5 percent or less of GDP in non-OECD economies but 19 percent in OECD economies. Property taxes are salient only in OECD economies but, even there, are still relatively small.

Low- and middle-income economies rely relatively more on indirect taxation and, as a consequence, have a lower redistributive impact from taxes than OECD economies do (pre- and posttax incomes are more even). Direct taxes, generally paid more by richer households, play a limited distributional role in non-OECD economies; they represent less revenue, are constrained by high degrees of informality and self-employment, exclude many households in the upper half of the income distribution because of high tax exemption thresholds, and are constrained by

Developing economies rely on indirect taxes for a majority of revenues; as economies get richer, they collect more through direct taxes, the main source of OECD revenues
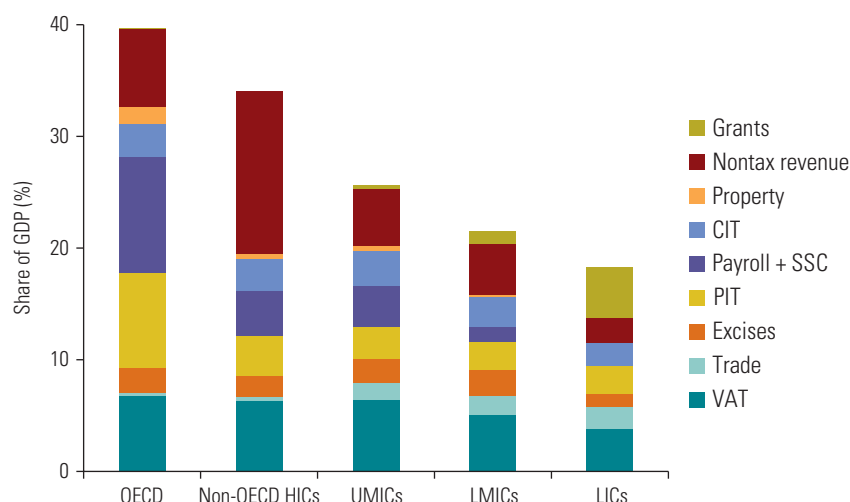
Source: International Centre for Tax and Development.

Note: The figure shows the composition of government revenue as a percentage of GDP, aggregated by income group. OECD countries form a separate group. Data by revenue type are from 2020 when available or the most recent available year back to 2015. The sample includes 155 economies. CIT = corporate income tax; GDP = gross domestic product; HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; OECD = Organisation for Economic Co-operation and Development; PIT = personal income tax; SSC = social security contribution; UMICs = upper-middle-income countries; VAT = value added tax.

Different types of tax instruments

Tax instruments are typically separated into two main categories: *direct taxes*—imposed on income, profits, and wealth—and *indirect taxes*—levied on the purchase of goods and services.

Direct taxes are paid straight to the government by economic agents (individuals and firms). The main direct taxes are personal income tax, corporate income tax, and property tax. These taxes are levied on individual income (salary, capital income such as dividends or rental income, and capital gains), the profits of corporations, the estimated value of property, and, in a few countries, total wealth. Social security contributions and payroll taxes are often considered direct taxes because they are also proportional to income, but typically their revenue serves a different purpose: it funds social insurance programs, such as unemployment benefits, health insurance, and, in some countries, pensions. As such, social security contributions often more resemble insurance premium payments or deferred income savings.

Indirect taxes are collected by a third party during a transaction. The main indirect taxes are sales tax and value added tax (VAT), excise tax on the production of specific goods (for example, alcohol or tobacco), and trade tax on imports and exports. Indirect taxes are considered easier to administer than direct taxes because they are remitted at limited points of collection and by fewer economic agents (for example, main ports for trade tax and large retailers for sales tax or VAT). The main indirect tax in most countries is VAT. Unlike sales tax, which only the firm selling to the final consumer remits to the government, VAT is levied at each stage of the supply chain, from initial production of inputs to final point of sale. Each agent in the value chain remits the VAT on its sales, but only after netting off the VAT it has paid on its own inputs, meaning that one party to each transaction has an incentive to report it, improving compliance.

tax administrative capacity. The more prevalent indirect taxes are also paid by poorer households (potentially at lower effective rates because of informality, as discussed later), for which they can represent a significant share of income. To alleviate the tax burden of indirect taxes on poor households, many economies apply exemptions and reduced rates to food and other staples commonly consumed by the poor; however, these exemptions tend to benefit richer households even more in absolute terms and to reduce tax collection. Thus, reliance on indirect taxation to raise revenues in developing economies can be a significant burden on poorer households unless the revenue is recycled back into progressive spending.

Direct taxes are progressive

Direct taxes are progressive—that is, for richer households payments represent more of their income than for poorer households. Figure 5.5, panel a, looks at direct taxes paid by each decile as a percentage of its market income (that is, an incidence curve), whereas panel c looks at them as a percentage of total taxes paid (that is, concentration shares). These two charts and concepts, explained in box 5.3, are referenced throughout this chapter. For example, in OECD economies, households in decile 1 (the poorest 10 percent of people) pay 6 percent of their market income in direct taxes, whereas households in decile 10 (the richest 10 percent of people) pay 28 percent. The steep incidence curve here indicates that direct taxes in OECD economies are progressive, because richer households pay a greater proportion of their income. As the concentration shares show, decile 10 pays about 41 percent of all direct taxes in OECD economies, and decile 1 pays less than 1 percent.

As economies become richer, the direct tax base expands, allowing for greater revenue collection from progressive tax instruments. The incidence curve slopes upward for all income levels—richer households pay a greater share of their income in direct taxes in all economies

(figure 5.5, panel a). The breadth and depth of direct taxes change, however, as economies grow wealthier. In LICs, usually only the richest decile pays direct taxes and, even then, only an average of 5 percent of income. As income grows in an economy, more household deciles start paying direct taxes and the average taxes paid as a share of income rise, indicating a broadening of the tax base (a greater number of people from across the distribution are paying some income tax rather than revenues' relying on just a few). The largest difference is for OECD economies, where the poorest decile pays about 6 percent of income in direct taxes—a higher level than all but the richest decile in UMICs—whereas the rest of the distribution pays significantly more in direct taxes than anyone in non-HIC countries. The height of the incidence curve above the horizontal axis shows that much more revenue is collected in direct taxation compared with developing economies. This broad direct tax base is also reflected in the concentration curves (figure 5.5, panel c). Again, all curves slope upward, indicating progressivity with respect to share of total tax—that is, richer households pay more. With the tax base broadening as economies get richer, however, poorer deciles start to pay some tax and the burden does not rest as heavily on the

FIGURE 5.5

Direct taxes collect a higher percentage of income from richer households, but indirect taxes collect more relative to incomes from poorer households
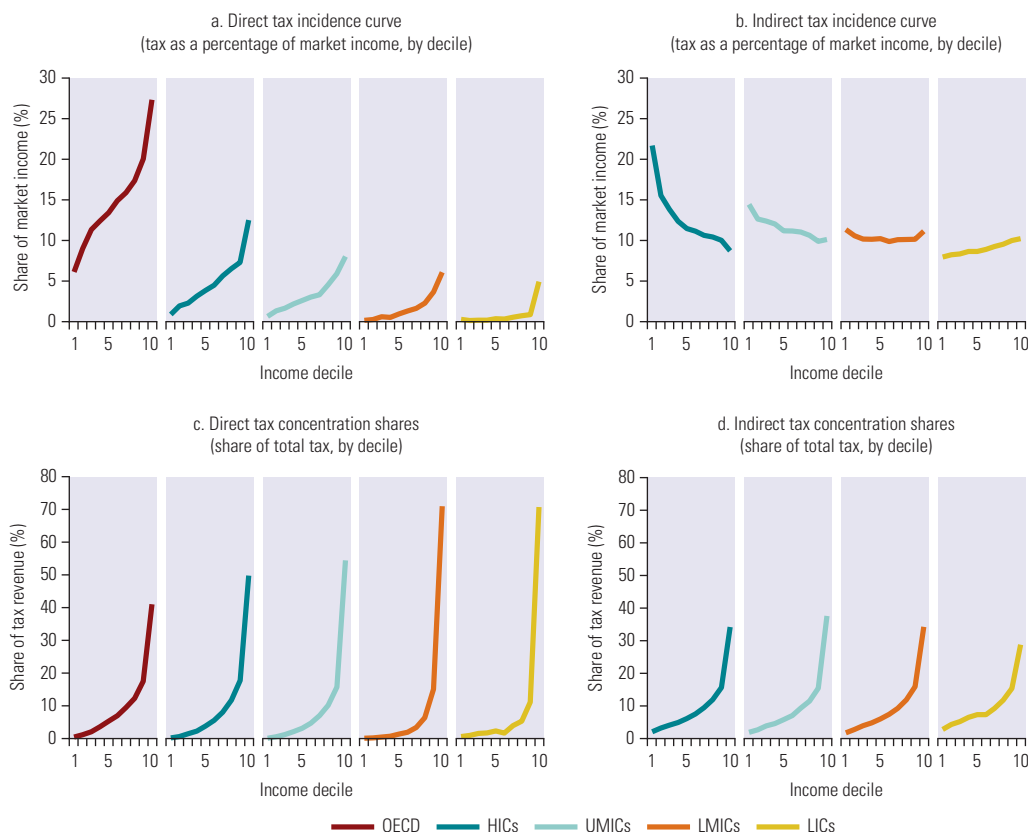
a. Direct tax incidence curve
(tax as a percentage of market income, by decile)

b. Indirect tax incidence curve
(tax as a percentage of market income, by decile)

c. Direct tax concentration shares
(share of total tax, by decile)

d. Indirect tax concentration shares
(share of total tax, by decile)

— OECD   — HICs   — UMICs   — LMICs   — LICs

Sources: Sosa and Wai-Poi, forthcoming, based on data from CEQ Institute, CEQ Data Center on Fiscal Redistribution, https://commitmentoequity.org/datacenter; OECD data; World Bank data.
Note: The figure shows direct and indirect tax incidence curves and concentration shares, aggregated by income group. Incidence curves show tax as a percentage of market income by market income decile. Concentration shares show tax as a percentage of total tax revenue by market income decile. Indirect tax incidence is not available for OECD countries. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; OECD = Organisation for Economic Co-operation and Development; UMICs = upper-middle-income countries.

richest households. In these economies, direct taxation is still progressive, but the broader base can finance higher levels of public goods and transfers.

Direct taxes are paid only by formal workers, further reducing the progressivity of income taxes in LICs. The de jure level of PIT liable on income above the exemption thresholds is not always paid in developing economies, especially by self-employed individuals, for whom income is difficult to observe and is not withheld at the source as is done by larger corporations (Kleven et al. 2011). The difficulties in taxing self-employment income have led economies to set the tax eligibility threshold such that the share of self-employed above it is low, with salaried workers representing at least 80 percent of the workforce above this level (Jensen 2022). As income grows in an economy, structural change moves workers out of agriculture and informal employment, and into larger manufacturing or service firms; such movement increases the share of salaried workers, which in turn allows countries to reduce their PIT thresholds and cover a broader share of the population. This pattern is observed consistently across time and economies. Thus, although PIT covers at least half of HIC populations, it covers 20 percent or less in UMICs and often less than 10 percent in LMICs and LICs, partly explaining why PIT collects so little revenue in these economies (and thus is much less equalizing than in HICs and OECD economies). Most CEQ studies assume that self-employed individuals do not pay PIT, so in effect noncollection from the 15–20 percent of the self-employed with income higher than the exemption threshold is included in progressivity estimates. However, capital income from rents or interest is also often not declared, nor is income from professional partnerships. These sources of income are often
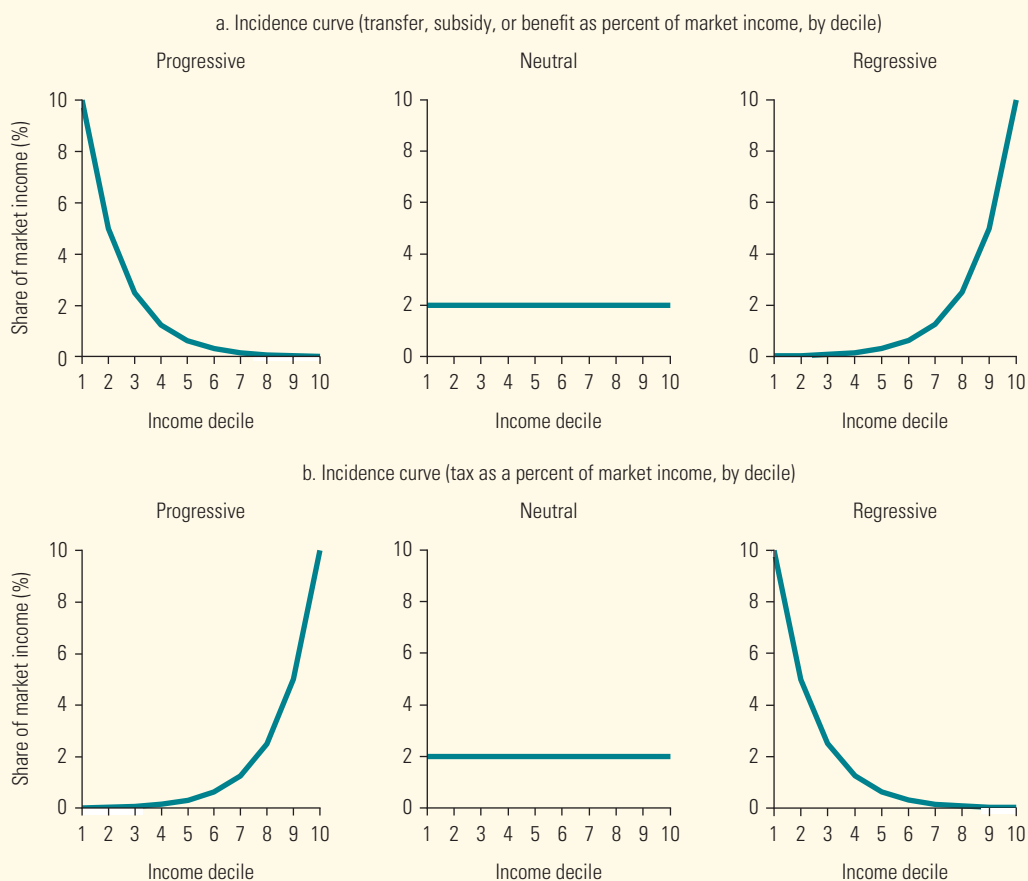
Incidence curves, concentration shares, and fiscal progressivity

The *incidence* of a particular tax or transfer is its share of a household's market income. A transfer that represents a greater percent of income for poorer households than for richer households (or a tax that represents a greater percent of income for richer households) is progressive *with respect to income.* Figure B5.3.1 shows stylized examples of progressive, neutral, and regressive incidence curves—first for a transfer, subsidy, or other benefit received by households and second for a tax paid.

The *concentration share* of a particular tax or transfer is how much of the total tax is paid or how much of the total benefit is received by a household. A transfer in which more goes to poorer households in absolute terms (that is, of the total budget) than to richer households is progressive *with respect to the share of benefits.* Any transfer in which poorer households receive a share that is higher than their share of pretransfer incomes will be equalizing. That is, the posttransfer income distribution will be more equal than the pretransfer income distribution (even if the share of the transfer to the poor is less than the share to the rich). If the poor receive a greater share of benefits than the rich, such a transfer will be not only equalizing but also pro-poor: the per capita transfer falls with income. For a tax to reduce inequality, not only must the rich pay a greater share of it but they must also pay a greater share than they already enjoy of total household income. This condition may seem counterintuitive, but consider an example in which A earns $10 and B earns $90. A pays $5 in tax, whereas B pays $10. B is paying a greater share of total tax revenue collected (67 percent); however, because she has an even greater share of income (90 percent), the tax increases inequality: the posttax incomes are $5 and $80, and B now has 94 percent of total income!

Figure B5.3.2 shows two examples of taxes of which richer households pay a greater share: one tax reduces inequality because the share paid by the rich is greater than their share of total income, and the other increases inequality because, even though the rich pay a greater share of the tax, it is less than their share of income, meaning their posttax income share goes up. Note that the concentration shares add up to 100 percent.
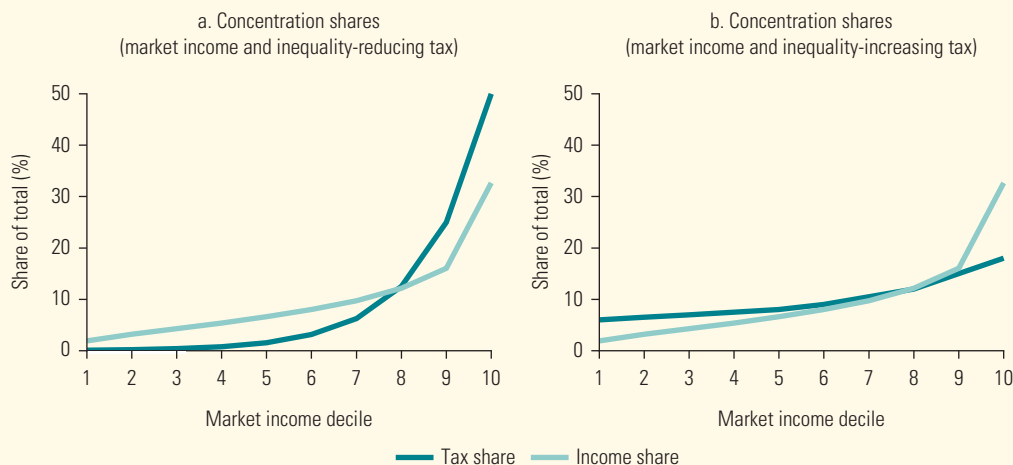
(continued)

BOX 5.3

Incidence curves, concentration shares, and fiscal progressivity *(continued)*

FIGURE B5.3.1

Progressive, neutral, and regressive incidence curves

a. Incidence curve (transfer, subsidy, or benefit as percent of market income, by decile)

b. Incidence curve (tax as a percent of market income, by decile)

Source: World Bank.

It is possible for an instrument to have a regressive concentration but progressive incidence, as is often the case with fuel subsidies. Richer households consume much more fuel (and therefore a greater share of the total subsidy) than poorer households, but the meager benefits to the poor represent a greater share of their even more meager incomes. It is also possible for an instrument to have a progressive concentration but regressive incidence, as is often the case with indirect taxes such as value added tax. Richer households pay a greater share of the total tax because they consume more, but poorer households pay more relative to their income (and poor incomes are closer to consumption than rich incomes). In fact, indirect taxes and subsidies can be seen as mirror images of each other.

A more exact way to both represent progressivity/regressivity and quantify it is with Lorenz curves of income and concentration curves (not shares) of a tax or transfer (see online annex 5B).

(continued)

BOX 5.3

Incidence curves, concentration shares, and fiscal progressivity *(continued)*

FIGURE B5.3.2

Inequality-reducing and inequality-increasing concentration shares

a. Concentration shares
(market income and inequality-reducing tax)

b. Concentration shares
(market income and inequality-increasing tax)

Share of total (%)

Market income decile

— Tax share   — Income share

Source: World Bank.

counted as taxed in CEQ analysis; because this income is earned by richer households, CEQ data may overstate PIT progressivity.

Given that household surveys often miss the richest households, however, what are the implications for the incidence of PIT if surveys could better capture the top of the income distribution?[16] Our best guess is that, if the richest households were accurately represented in household surveys,[17] PIT incidence would be measured as more progressive than currently estimated. In all countries, PIT tends to be quite concentrated, with a small number of rich taxpayers paying a large share of total taxes; to the extent that these households are not included, the PIT incidence and concentration curves can be underestimated at the top. A few studies have tried to evaluate the extent of missed income by merging survey data with administrative data from tax returns.[18] Using one of the available methods to correct misreporting of top incomes, Blanchet, Flores, and Morgan (2022) discuss how these two types of data sets can be merged and illustrate this method with data from a few economies. For example, the share of pre-tax national income going to the richest 1 percent of households in Chile increases 3 percentage points from the share reported in the survey data once tax administrative data are included; this adjustment increases the Gini index by 5 points. In Brazil, the top 1 percent's share increases from 10 percent to 24 percent and the Gini index from 51 points to 62 points. Missing top incomes is not an issue specific to the CEQ and OECD data on fiscal redistribution but affects any inequality measure relying on survey data. Among the important consequences is that, if the share of missing income from survey data that CEQ and OECD studies rely on is large, so too is a large share of PIT. Not accounting for these tax revenues could affect fiscal redistribution indicators, but the order of magnitude of this effect is unclear. Complete data could lead to both a higher Gini index and larger equalizing effects of PIT, if a reasonable share of the income of the missing rich households is observable and taxable, as would be the case for salaried income and other types of income withheld at

the source (for example, dividends from large corporations). Hence, the omission of some rich individuals likely dominates tax evasion by rich self-employed professionals and the difficulty of taxing some capital income common at the top of the distribution. On balance, direct taxes are likely more progressive than currently estimated in CEQ (and other household survey–based) data.

Indirect taxes are generally regressive or neutral to incomes

Indirect taxes are generally neutral or regressive with respect to income: richer households pay a share of total tax that is equal to or lower than their share of pretax income. The incidence curve and concentration shares for indirect taxes are shown in figure 5.5, panels b and d. The shares do not change much across income levels, with the richest decile paying 30–40 percent of all indirect taxes and the bottom half paying 20–25 percent. Unlike for direct taxes, however, the incidence curves for indirect taxes are flat and even slope downward for richer economies. This result indicates that indirect taxes are not progressive: they are neutral in most poorer economies[19] and regressive in richer ones, in that poorer households pay at least as high a share of their income in indirect taxes as richer households do.[20] Unlike direct tax incidence curves, those for indirect taxes are above 5 percent for all deciles at all income levels, illustrating the breadth of the indirect tax base in developing economies (covering more people) and their reliance on these taxes as a revenue source.

Why are indirect taxes often less regressive in poorer economies? VAT exemptions and preferential rates for specific products—often foods and staples making up a larger share of poorer households' consumption baskets—play a significant role in developing economies. These exemptions make the effective tax rate on consumption lower for poorer households, although these tax expenditures—the tax revenue forgone due to exemptions—are also enjoyed by richer households. Yet, even with tax exemptions on necessities, poorer households pay indirect taxes in all countries, which reduces their purchasing power and can increase short-term poverty in the absence of offsetting transfers.

Poor households are more likely to buy from informal stores, which do not remit taxes. Figure 5.6 shows how the share of total consumption from home production and small store purchases changes with household expenditure in three example economies at different income

FIGURE 5.6

Poorer households buy more from informal vendors, reducing their effective indirect tax rates
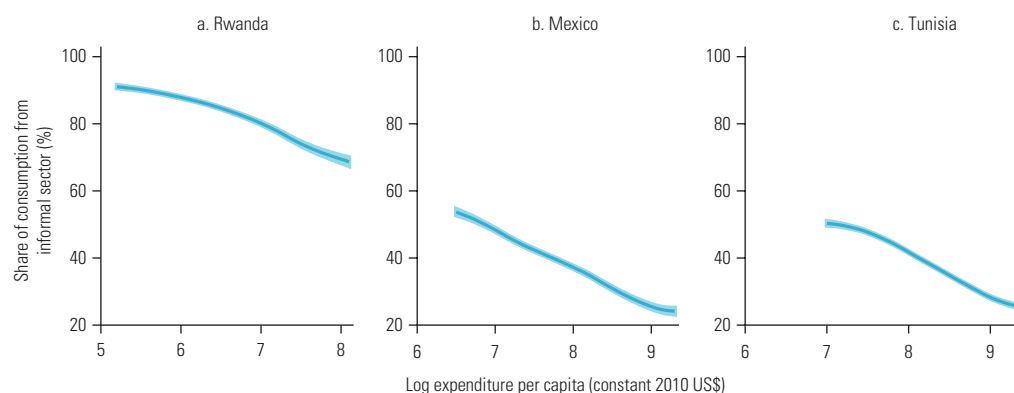
Source: Bachas, Gadenne, and Jensen 2020.
Note: The figure shows a polynomial fit of consumption from the informal sector as a percentage of total expenditure, across the expenditure distribution, in Rwanda, Mexico, and Tunisia based on household-level data. Countries are ordered by median per capita expenditure from left (panel a) to right (panel c); 95 percent confidence intervals are shown.

levels. In all three, poorer households consume a much larger share from the informal sector than richer households do. These patterns apply broadly to more than 32 economies for which data are available (Bachas, Gadenne, and Jensen 2020). Purchases from the informal sector still bear some indirect tax if informal vendors buy goods and services from formal suppliers (including rent and utilities as well as inventory), but there will be no tax on the informal vendor's value added (including labor) so the effective tax rate will be lower than the same good sold at a formal location. For example, a haircut at an informal location may not have VAT charged on its price, but the electricity used at the shop likely does include VAT, which in turn is incorporated into the final price. In effect, poorer households will face a lower effective indirect tax rate because of their higher likelihood of purchasing from the informal sector. This outcome makes indirect taxes less regressive than usually estimated when informality is not accounted for. Depending on the assumptions, accounting for informality implies that indirect taxation reduces inequality by 1–2 points instead of the close-to-zero effect currently observed (Bachas, Gadenne, and Jensen 2020). The exact calibration of the effect of the informal sector on the distributional incidence of indirect taxes requires price incidence analysis following changes to VAT rates in both formal and informal stores, which is demanding in terms of data, and the results are likely to depend on the context. At the same time, although informality may make taxes on consumption more progressive, it also means that these taxes collect less revenue, which in turn reduces the fiscal space for (more efficient) redistribution through cash transfers and in-kind expenditures.

Thus, informality undermines the already weak rationale for using indirect tax exemptions and preferential rates to reduce the burden on the poor. Many economies tax food and staples at lower rates than other goods and services because these items represent a larger share of poor households' consumption. However, poor households in developing economies commonly shop at small, unregistered stores and markets, if not consuming directly from home production, whereas richer household shopping occurs predominantly in large chain stores and supermarkets. Consequently, when informal consumption is considered, VAT exemptions meant to reduce the burden of indirect taxes accrue disproportionately to richer households, diminishing their rationale. Further, these tax exemptions reduce total revenue collection, and the complexity in administering multiple tax rates creates additional opportunities for tax avoidance and evasion.

Additional important taxes are missing from the fiscal incidence studies used as a basis for this chapter, which affects both how much revenue is collected and from whom. OECD data capture only PIT and leave out consumption tax; and, although the CEQ analysis captures the two main tax instruments in most economies (consumption and personal income taxes), it does not consider taxes on corporate profits, and usually not on property or on international trade (tariffs). Although assessing their distributional implications is challenging, the incidence is likely to be progressive, implying that the results reported here may underestimate the degree of progressivity of the tax system.

CIT collects between 2 percent and 3 percent of GDP, and incidence is likely to be progressive. The exact incidence is subject to debate, but studies in OECD economies show that shareholders tend to bear more than half of the burden, the rest borne by workers or consumers.[21] That shareholders often belong to the top of the income distribution suggests that CIT is progressive, especially in poorer economies where the workers of large firms are themselves well-off. CIT also acts as a backstop, ensuring that some tax is paid by business owners who otherwise might not pay income tax. CIT is not included in the CEQ framework because survey data do not capture household capital ownership well. In Chile, a unique CEQ study used rare administrative data on taxpayers' accrued corporate income to allocate a share of corporate income to households (Candia and Engel 2018). Direct taxes were estimated to be responsible for 16 percent of the fiscal reduction in inequality; this reduction increased to 20 percent after including CIT, indicating that CIT is progressive in Chile, at least.

Although property taxes collect little revenue in developing economies, they are usually progressive. This progressivity is because they increase with the value of land and property owned, which is highly correlated with income (although the progressivity of any property tax in practice

will depend on its design as well as the nature of local property ownership and rental markets).[22] However, property taxes do not raise much revenue in non-OECD economies because of various challenges. Administratively, land cadasters and valuations are often outdated, and property rights for both urban homeowners and rural landowners are often not widely documented. In addition, property taxes are often raised by local governments with even more limited capacity and sometimes conflicting objectives. Finally, political economy issues on this sensitive tax limit the effective taxes collected; these issues and potential solutions are discussed further in chapter 7. Although incidence data on property taxes are hard to come by, simple assumptions suggest that they are progressive given the concentration of real estate wealth. In OECD economies, more than 50 percent of real estate wealth is concentrated in the richest decile, higher than for income. However, property taxes often apply flat rates (and fewer exemptions), and homeownership rates can be high in developing economies. Further, some economies apply land taxes, which are likely to be less progressive and can fall on poorer agricultural workers and landowners, especially if a flat rate is applied on an area basis.

Taxes on trade (tariffs) are an important revenue source in LICs, but their incidence is likely neutral. Tariff revenues are often about 1–2 percent of GDP in many economies, or one-sixth of tax revenues in LICs and one-eighth to one-ninth in LMICs and UMICs. Their incidence depends on several factors, such as consumption patterns, income portfolios, and initial tariffs. Artuc, Porto, and Rijkers (2021) estimate that the removal of agricultural tariffs would increase total income by 2–3 percent; in half of the economies studied, their incidence would be regressive and in the other half progressive.

In the case of Chile, including some of the missing elements in the CEQ analysis suggests that it would further reduce inequality by roughly 2 points. The back-of-the-envelope analysis in box 5.4 quantifies the impact of informal consumption, missing top incomes, and corporate

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BOX 5.4

Chile: The distributional impact of commonly missing CEQ fiscal instruments

The 2013 Commitment to Equity (CEQ) analysis for Chile starts with a baseline market income Gini index of 49.4. After accounting for all the fiscal policies commonly included in a CEQ study (including in-kind health and education spending), the final income Gini index is 42.0. Several adjustments are then made to this estimate to try to account for fiscal policies not commonly included. First, using the model-based estimation of Bachas, Gadenne, and Jensen (2020), accounting for patterns of informal consumption implies that fiscal policy would reduce inequality by an additional point. Second, Blanchet, Flores, and Morgan (2022) find that using administrative tax microdata increases the concentration of income among the richest 1 percent of households by 25 percent compared with using only survey data. Conservatively, this extends the marginal effect of direct income taxes from the baseline CEQ analysis by 25 percent, reducing the Gini index by an additional 0.3 point. Modeling missing corporate income and property taxes is even more challenging; however, the inclusion of corporate income taxes using a unique tax microdata source in Chile finds that direct taxes account for 20 percent of the fiscal system's reduction in inequality (compared with 16 percent without corporate income taxes; Candia and Engel 2018). This change is equivalent to a further 0.3-point reduction in the Gini index. Finally, in Chile, the property tax is likely to further reduce the Gini coefficient for several reasons: real estate wealth is concentrated at the top, the property tax has an exemption threshold for low-value properties, and it charges a nontrivial rate (1.2 percent in urban areas, 1.0 percent in rural areas). Thus, a complete picture of fiscal policy in Chile could further reduce the Gini index by about an additional 2 points, a 25 percent increase in the overall redistributive gain compared with the baseline assessment. In addition, the inclusion of top incomes and accrued corporate income means that the market-income level of inequality is higher compared with the baseline estimate.

income and property taxes. In doing so, inequality at the market income stage is reduced by close to 9.5 points by the final-income stage, 2.0 points more than the baseline 7.5 points estimated for Chile (Martínez-Aguilar et al. 2017).

Transfers and distribution

All economies spend on subsidies; richer economies spend more on direct transfers

With taxes playing a limited role in redistribution in developing economies, spending choices become paramount for equity. Direct transfers play a critical role in developing economies because they are the best option for offsetting the burden of indirect tax for poorer households. Even at low levels of income, when spending on direct transfers is low, spending on indirect subsidies represents close to 3 percent of GDP, is not well targeted, and crowds out more progressive spending.

Richer economies raise more revenue and so can spend more than poorer economies, increasing discretionary and progressive social spending (figure 5.7, panel a). Moreover, there appears to be a fixed cost of governance (basic public administration and security). The average "other" spending across economy income levels is relatively constant (panel b), so lower levels of total spending mean lower levels of such nonfixed spending. The majority of "other" is categorized as general public services, economic affairs, and public order. Other studies have estimated infrastructure spending for low- and middle-income economies at 3.5–5.0 percent of GDP, 90 percent of which is spent by the public sector (Fay et al. 2019).

FIGURE 5.7

Richer economies spend more on education, health, and social protection
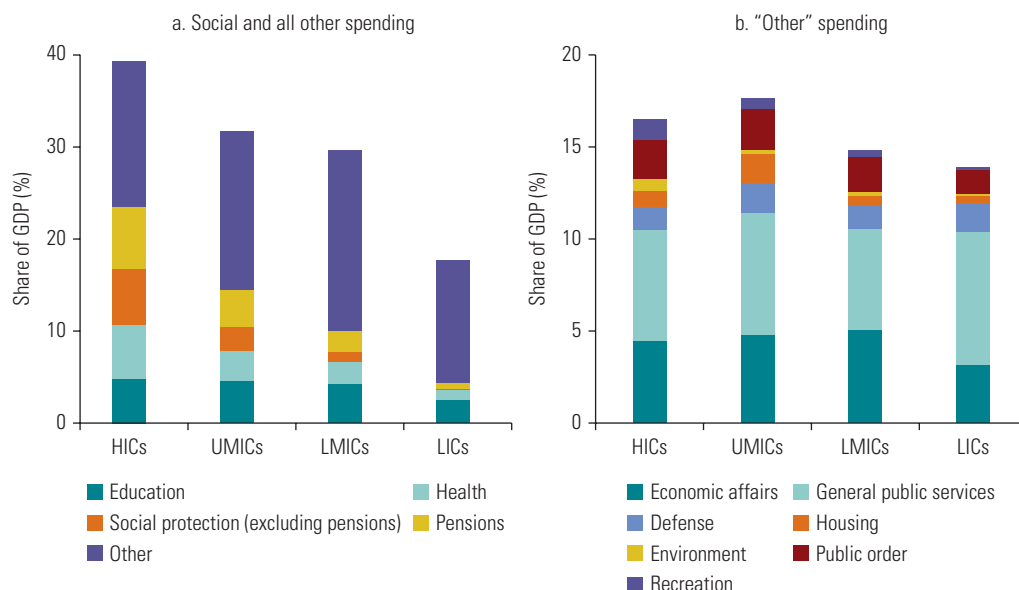
Sources: Sosa and Wai-Poi, forthcoming, based on data from World Bank, BOOST Open Budget Portal, https://www.worldbank.org/en/programs/boost-portal; International Monetary Fund, Government Finance Statistics database, https://data.imf.org/gfs.
Note: The figure shows each category of public expenditure as a percentage of GDP, aggregated by income group. "Other" in panel a is defined residually as the difference between total spending and social spending. Panel b shows "Other" categories. For LMICs, there is a gap between the sum of explicit "Other" categories and the implied "Other" in panel a. GDP = gross domestic product; HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; UMICs = upper-middle-income countries.

As total spending increases, greater space is available for spending on education, health, social protection, subsidies, and pensions, among other things. The choices economies make on average at each income level are apparent in figure 5.7, except for subsidies, which are not easily identified in the main spending database; major subsidies are quantified from separate data sources next. Within these social spending categories, poorer economies tend to invest first in education, which makes up 14 percent of total spending in LICs, a greater share than in other income groups, or about 2.5 percent of GDP. LIC spending in the other discretionary categories is much lower, except for subsidies (figure 5.8), which are a similar size to education, and more than health and social protection spending combined. As economies get richer, they tend to spend a higher share on health and social protection. Health spending averages 6 percent of total spending in LICs, 8 percent in LMICs, 11 percent in UMICs, and 15 percent in HICs; social protection (excluding pensions) averages 1 percent, 4 percent, 8 percent, and 15 percent, respectively; and pensions average 3 percent, 8 percent, 13 percent, and 17 percent, respectively.[23] However, subsidy spending remains higher than social protection spending (excluding pensions) in LMICs and about the same size in UMICs, indicating that in many economies choosing to spend on subsidies can crowd out other spending. Meanwhile, "other" spending as a share of total spending falls from 75 percent to 66 percent to 54 percent to 40 percent, respectively. How economies might evaluate the merits of different spending choices is taken up further in chapter 6.

Available data on subsidy spending likely underestimate total spending on subsidies, yet still show that subsidy spending is high at all income levels, with budgets often much higher than for social protection (figure 5.8, panel e). Global databases on agricultural and energy subsidies provide an idea of how much economies of different income levels spend on these two common and largest subsidies. Energy subsidies alone—mostly petrol, natural gas, and electricity—average over 2 percent of GDP at all non-OECD income levels (figure 5.8, panel a). Although this average is driven by nearly 7 percent of GDP levels in the energy-rich Middle East and Central Asia region, energy subsidies still account for about 1 percent of GDP in all other developing regions (panel b).

Agricultural subsidies are also significant in some economies. Panels c and d of figure 5.8 show the magnitude of agricultural support by income class and region. This support includes direct fiscal support to producers: input subsidies (for example, fertilizers and seeds), output subsidies (for example, based on production), and decoupled transfers (payments to farmers regardless of type and volume of production). Although smaller than energy subsidies, direct agricultural subsidies cost 0.30–0.45 percent of GDP on average (and are considerably larger in some economies), a significant fiscal burden when potentially more progressive direct transfers often lack adequate budget to have an impact. As discussed next, however, once in place, subsidies are difficult to remove.

Direct transfers are highly progressive; spending on subsidies benefits richer households more
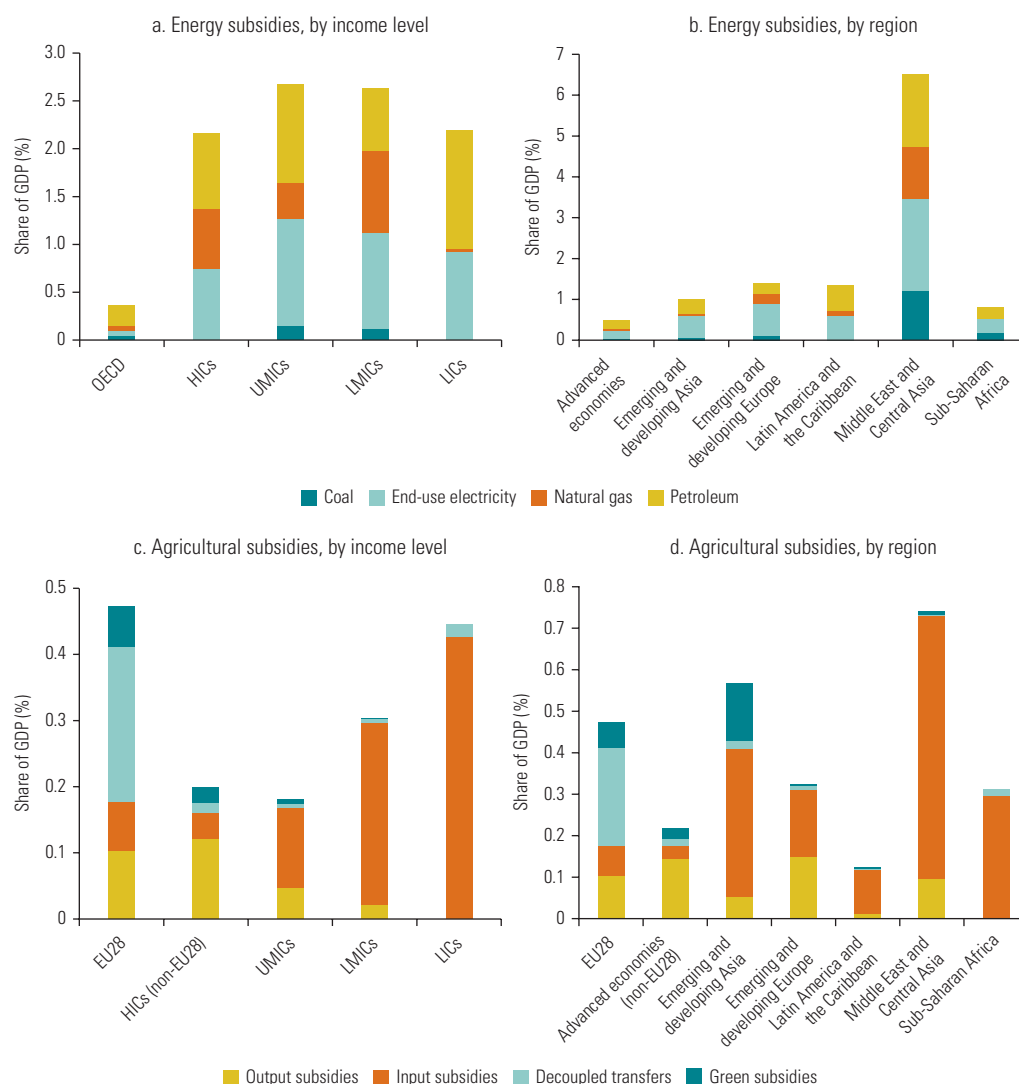
CEQ analysis covers spending on direct transfers, indirect subsidies, and health and education. This section focuses on the spending on direct transfers and subsidies. Health and education spending, as well as other spending not included in the CEQ methodology, such as infrastructure spending, is discussed in chapter 6, albeit with a different objective not directly related to the distributional implications of fiscal policy.

Well-targeted direct transfers go mostly to poorer households and often represent a significant boost to their low incomes. As is the case with taxes, the value of direct transfers relative to market incomes for richer and poorer households can be assessed (figure 5.9, panel a); the CEQ and OECD data are based on actual social assistance take-up and reflect the errors that will arise when benefits are targeted, an issue taken up later in this chapter. The incidence curve for direct transfers slopes downward at all income levels, indicating that average direct transfers for poorer households represent a greater share of their income. In fact, in practically all economies, cash transfers are pro-poor in the sense that the per capita transfer (and not just the ratio of the

transfer to the pretransfer income) declines with income. However, the benefits are very small in LICs and LMICs for all households (because of the low level of direct transfer spending), becoming more valuable to poorer households only in UMICs and HICs. Like direct taxes, direct transfers are also progressive: poorer households receive a greater share of total direct transfers than richer households (figure 5.9, panel c). Unlike direct taxes, the progressivity increases as economies get richer; benefits become even more concentrated on the poorest, reflecting better data and administrative capacity to assess household welfare and eligibility for targeted trans- fers.[24] Smaller and less-well-targeted direct transfer spending means that the direct transfers play a more limited role in LICs than elsewhere, with implications for how much they can offset short-term increases in poverty due to indirect taxes.

FIGURE 5.8

Subsidies are expensive in many developing economies, often exceeding social protection budgets

a. Energy subsidies, by income level

b. Energy subsidies, by region

Coal   End-use electricity   Natural gas   Petroleum

c. Agricultural subsidies, by income level

d. Agricultural subsidies, by region

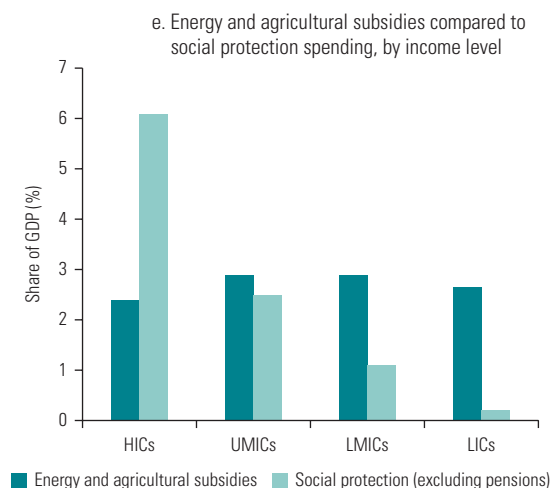Output subsidies   Input subsidies   Decoupled transfers   Green subsidies

(continued)

FIGURE 5.8

Subsidies are expensive in many developing economies, often exceeding social protection budgets *(continued)*

e. Energy and agricultural subsidies compared to social protection spending, by income level

■ Energy and agricultural subsidies ■ Social protection (excluding pensions)

Sources: Agricultural subsidies: International Organisations Consortium for Measuring the Policy Environment for Agriculture database, http://www.ag-incentives.org/; energy subsidies: International Institute for Sustainable Development, https://www.iisd. org/; social protection: World Bank, BOOST Open Budget Portal, https://www.worldbank.org/en/programs/boost-portal, and International Monetary Fund, Government Finance Statistics database, https://data.imf.org/gfs.
*Note:* The figure shows spending on different types of energy and agricultural subsidies as a percentage of GDP, aggregated by income group and region. Agricultural subsidies calculated as averages for the period 2016–18. Energy subsidies calculated as average subsidies for the period 2017–19. Panel e compares total spending on energy and agricultural subsidies with spending on social protection (excluding pensions), aggregated by income group. EU28 = European Union group of 28 countries; GDP = gross domestic product; HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; OECD = Organisation for Economic Co-operation and Development; UMICs = upper-middle-income countries.

Indirect subsidies provide relatively little support to poorer households, and a large share of these subsidies often goes to richer households. The subsidies may increase or decrease inequality, but even when reducing inequality they are always less efficient at doing so than cash transfers: the share of subsidies benefiting each decile is similar in HICs, but at lower income levels the share accruing to richer households grows larger and larger (figure 5.9, panel d). In the poorest economies, more than half of all benefits go to the richest 20 percent. Moreover, although the benefits represent a greater percentage of market income for poorer households than they do for richer ones (and thus reduce inequality, albeit in an inefficient manner), these benefits are never more than 3–4 percent of income, meaning they provide relatively little support anyway (figure 5.9, panel b).

The broad benefits that subsidies provide can make them popular, but more broadly based direct transfers would in most cases be a better policy choice. In addition to being regressive, subsidies are also often distortionary, difficult to remove, and not well-suited for their intended purposes. Energy subsidies encourage wasteful energy consumption, exacerbating climate change. Commercial and agricultural water subsidies can also have negative environmental impacts (see chapter 6 for a fuller discussion). Once in place, subsidies can be very difficult to remove. People become accustomed to cheap prices, and removing a subsidy can seem psychologically equivalent to a tax increase or a new tax. At the same time, households can face genuine hardship if subsidies are removed without mitigating measures (the poor may receive a smaller share of benefits, but, as panel c of figure 5.9 shows, the benefits are usually a larger share of their income than for the rich); redirecting some of the subsidy savings to targeted cash transfers can offset the impact of higher prices for the poor.[25] Finally, subsidies are frequently

FIGURE 5.9

Most transfers go to poorer households and provide strong income support; most subsidies go to richer households and provide little support to poorer ones
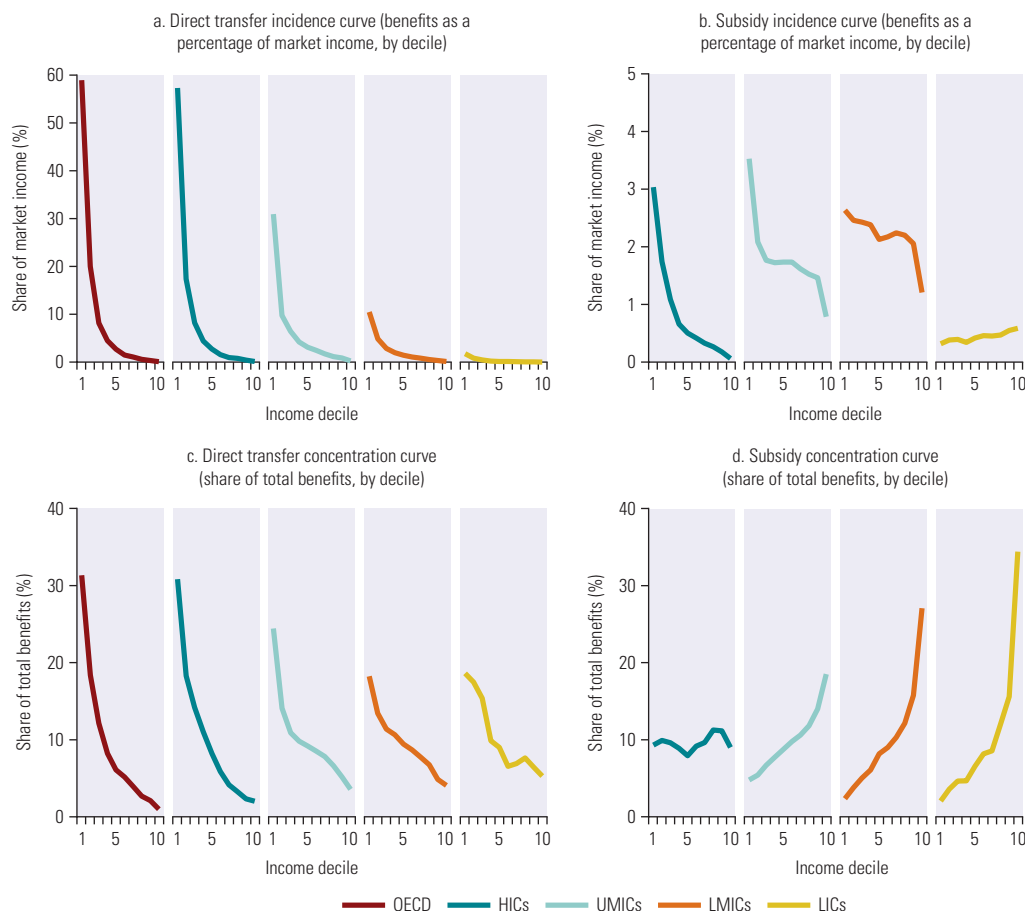
a. Direct transfer incidence curve (benefits as a percentage of market income, by decile)

b. Subsidy incidence curve (benefits as a percentage of market income, by decile)

c. Direct transfer concentration curve (share of total benefits, by decile)

d. Subsidy concentration curve (share of total benefits, by decile)

OECD   HICs   UMICs   LMICs   LICs

Sources: Sosa and Wai-Poi, forthcoming, based on data from CEQ Institute, CEQ Data Center on Fiscal Redistribution, https://commitmentoequity.org/datacenter; OECD data; World Bank data.
Note: The figure shows direct transfer and subsidy incidence curves and concentration shares, aggregated by income group. Incidence curves show transfers/subsidies as a percentage of market income by market income decile. Concentration shares show transfers/subsidies as a percentage of total benefits by market income decile. Subsidy incidence is not available for OECD countries. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; OECD = Organisation for Economic Co-operation and Development; UMICs = upper-middle-income countries.

not fit for their intended purposes; there are often better policy alternatives for a given policy objective. For example, targeted direct cash transfers (social assistance) are more progressive, less costly, and less distortionary. Even in a crisis, there can be other options (see chapter 4).

Many types of subsidies may appeal to policy makers, however. Common subsidies include food, fuel, utilities (electricity and water), agricultural (seeds, fertilizer), housing, credit, and wages; and they are used for a number of reasons. For example, they may be easier to administer (that is, they do not require assessing which households are poor) or quicker to provide support in a crisis (that is, they do not require establishing household eligibility, extracting beneficiaries from a social registry, or paying transfers). As noted, subsidies may also be popular (and therefore politically unpopular to remove) or may support vested political and business interests. Evaluating the desirability of subsidies thus requires considering not only their incidence but

also their adequacy (degree of income support provided), their cost, and how they distort incentives or create externalities. Fuel subsidies score poorly on all accounts: they cost a lot, mostly benefit richer households, and encourage wasteful and environmentally damaging energy consumption (although their removal will hurt the poor without accompanying compensation measures; such measures can cost far less than the savings from subsidy removal). Other subsidies may have more merit, at least in particular circumstances.

Another reason subsidies may be used (and a drawback to targeted cash transfers) is the targeting errors that will arise when benefits are focused on a particular subgroup. Poverty-targeted programs will inevitably exclude some poor households and include some nonpoor households, because household income or consumption is not directly observed (as it is in richer economies with highly formalized employment and incomes) but is instead inferred. The process of determining who is eligible for targeted assistance can introduce inaccuracies at all points of the delivery chain: poor households may not know they are eligible or how to apply; the data used to infer eligibility may not be available or may be costly to collect or out-of-date, especially during a shock; and the way eligibility is inferred (the targeting method, such as by statistical model—proxy means test—or community agreement) will be imperfect and errors can be large. Subsidized goods and services avoid such errors by being available to all. Despite these reasons for using subsidies, targeted transfers still provide support much more efficiently than subsidies, as the incidence curves and concentration shares—which include targeting errors—indicate; and significant international experience exists on how to minimize targeting errors in any economy context (see Grosh et al. 2022 for a recent and comprehensive review).

Nonetheless, whether a subsidy is the best way to help poorer households needs to be considered carefully. This concern is particularly salient at the time of writing when the Russian invasion of Ukraine has led to sharply higher food and fuel prices. A number of economies are considering (or are) implementing subsidies in response (see chapter 4). Long experience shows that this response may not be the best approach, not only because of the cost and inefficiency of subsidies (highlighted further in chapter 6)[26] but also because of how hard they are to unwind. For example, Inchauste and Victor (2017, 1) observe:

> Subsidies that begin small with noble, well-focused purposes to ensure price stability can become entrenched. The presence of a subsidy attracts supportive interest groups that mobilize politically to press for larger, more permanent subsidies. As a result, removal or redirection of the subsidy becomes harder. Indeed, the problem of energy subsidies isn't one of expert knowledge about their perverse effects. It is, rather, a problem of political economy.

Another form of subsidy is tax expenditures—that is, taxes not collected because of exemptions or reduced rates—which are, on average, as high as 4 percent of GDP. CEQ studies model exemptions for indirect taxes, which simply means taxes are not applied to consumption of those items. The studies do not capture the size of the tax forgone or the incidence of these tax expenditures. A new data set assembles tax expenditure assessments from more than 100 economies at all income levels (Redonda, von Haldenwang, and Aliu 2022). On average, tax expenditures represent approximately 20 percent of forgone revenue. As a share of revenue collection, tax expenditures tend to be slightly higher in low-income and middle-income economies than in OECD economies (and tax expenditures might be underestimated in poorer economies). Half of all tax expenditures are geared toward indirect taxes, whereas tax expenditures for CIT and PIT each account for about 15 percent; see online annex 5C for a full set of results. Although some indirect tax exemptions on necessities help reduce poverty and inequality, they are a coarse redistribution instrument, especially if poor households purchase frequently from the informal sector; targeted transfers are better suited for redistributive objectives. Other indirect tax exemptions, such as on utilities and fuel, are often regressive (Harris et al. 2018). Assessing the distributional effects of CIT and PIT expenditures is more challenging, although it is probable that they are not generally progressive (for example, mortgage deductions for PIT are regressive). Thus, tax expenditures are large, not transparent,
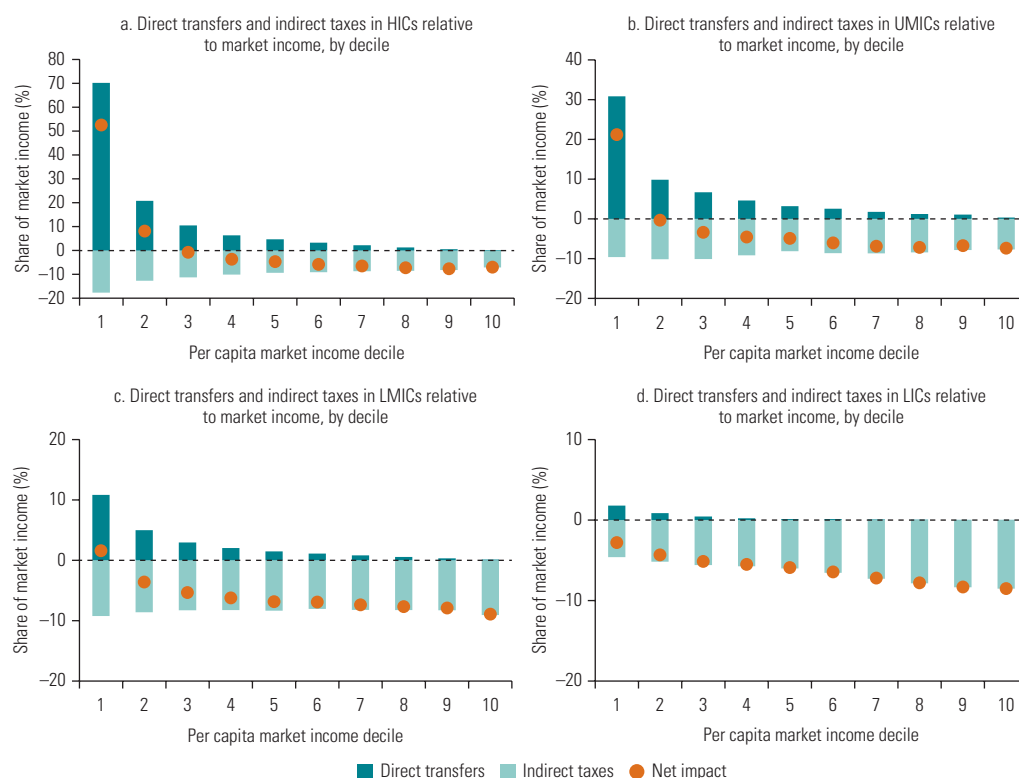
and unlikely to be progressive; and their impact is insufficiently assessed. Rationalizing tax expenditures and narrowing their objectives could open fiscal space; a key first step is making information on them more readily available.

Economies of all income levels and capacities can achieve progressive fiscal policy

HICs offset significant indirect revenue collection with well-targeted and adequate direct transfers for the poor. Indirect taxes can collect more revenue if regressive and costly exemptions are not used, and if their impact on the poorest households is offset cost-effectively through targeted direct transfers—both of which HICs generally do well. For example, although HICs collect a median 18 percent of market income from decile 1 in indirect taxes, these households also receive direct transfers representing an average of 70 percent of market income, so the combined impact is a net 53 percent gain (figure 5.10, panel a). The well-targeted nature of direct transfers in HICs means this net gain tapers quickly; decile 2 receives 8 percent net benefits, decile 3 is unchanged, and all other deciles are net contributors. Box 5.5 profiles the example of how Uruguay uses indirect taxes and direct transfers.

The indirect tax burden usually exceeds the benefit of direct transfers for the poor in all but HICs

a. Direct transfers and indirect taxes in HICs relative to market income, by decile

b. Direct transfers and indirect taxes in UMICs relative to market income, by decile

c. Direct transfers and indirect taxes in LMICs relative to market income, by decile

d. Direct transfers and indirect taxes in LICs relative to market income, by decile

■ Direct transfers ■ Indirect taxes ● Net impact

Sources: Sosa and Wai-Poi, forthcoming, based on data from CEQ Institute, CEQ Data Center on Fiscal Redistribution, https://commitmentoequity.org/datacenter; OECD data; World Bank data.
Note: The figure shows direct transfers, indirect taxes, and the net impact of both as a percentage of market income at each income decile, aggregated by income group using median decile results. Indirect tax incidence is not available for OECD economies. The net incidence is calculated at income level as the residual of the median incidence of taxes and transfers, which does not match the median of the net incidence at the economy level. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; OECD = Organisation for Economic Co-operation and Development; UMICs = upper-middle-income countries.

In many UMICs and LMICs and most LICs, however, the combination of indirect taxes and direct transfers has a negative impact on the poor. The median impact on decile 1 in UMICs is 21 percent and about zero for decile 2 (figure 5.10, panel b); in LMICs, decile 1 benefits are less than 2 percent of market income and negative elsewhere in the distribution (panel c), as they are for all LIC deciles (panel d). Moreover, in many countries, the net impact is negative even for the poorest decile (see online annex 5D for a complete list of countries). However, there are good examples among both UMICs and LMICs where strong indirect tax revenues are combined with well-targeted and generous direct transfers to raise net revenues and reduce poverty and inequality, including Bolivia (box 5.6). Limited fiscal space constrains LICs more in terms of direct transfers, but Ethiopia (also box 5.6) provides an example of how indirect tax burdens can be mitigated for the poorest.

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BOX 5.5

Uruguay: The impact of indirect taxes and direct transfers

Uruguay's high indirect taxes (12.5 percent of GDP in 2009 Commitment to Equity year) are offset by generous direct transfers (2.2 percent of GDP), with short-term poverty falling by 0.9 point (figure B5.5.1). The combination of indirect taxes and direct transfers does well to support the poorest 20 percent, who pay 14.2 percent of market income in tax but receive 40.5 percent of market income in benefits. Moreover, the system tapers so that (1) the net impact on the poorest 40 percent is mildly positive (12.3 percent of market income paid in taxes and 18.2 percent of market income received in transfers) and (2) all deciles in the top 60 percent pay more in indirect taxes than they receive in transfers.

In addition, Uruguay raised 2.5 percent of GDP in personal income taxes, 2.7 percent in corporate income taxes, and 1.3 percent in property taxes while spending 6.6 percent on health and 4.8 percent on education. Taxes, transfers, and subsidies reduced inequality by 3.7 points, and inequality fell by 12.8 points when health and education spending are also included.

FIGURE B5.5.1

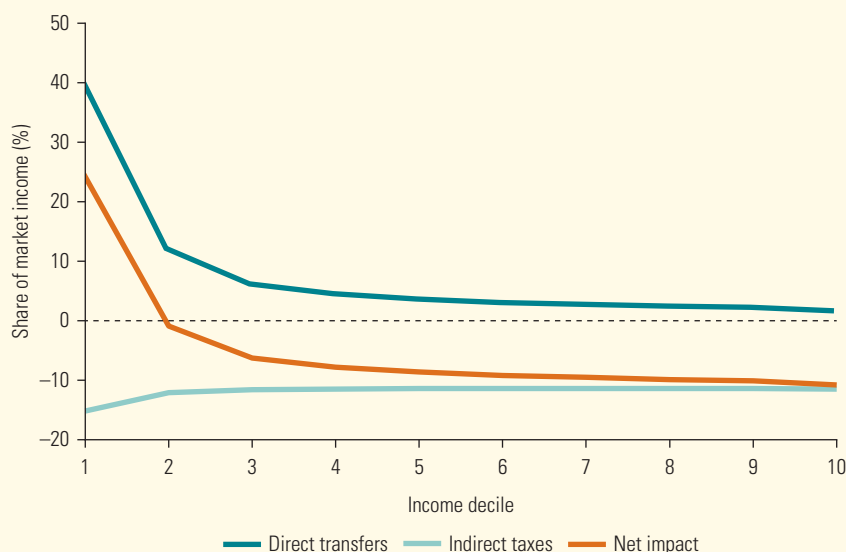### Net incidence of transfers and indirect taxes in Uruguay
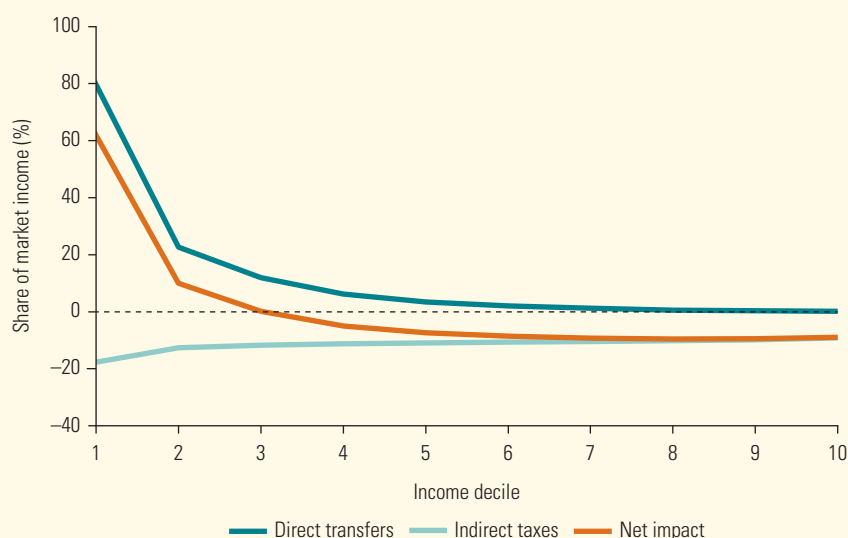
Sources: CEQ Institute, CEQ Data Center on Fiscal Redistribution, https://commitmentoequity.org/datacenter; World Bank data.
Note: The figure shows direct transfers, indirect taxes, and the net impact as a percentage of market income, by market income decile, for Uruguay.

</div>

BOX 5.6

Bolivia and Ethiopia: Fiscal system impact on poverty and inequality

In its 2015 Commitment to Equity year, Bolivia collected 13.7 percent in indirect taxes (costing 15 percent of market income for the bottom 10 percent) but spent 1.8 percent on direct transfers (the benefits were worth 40 percent relative to the bottom 10 percent's market income), resulting in a 24 percent of market income net gain to the poorest 10 percent and neutral impact for the second-poorest 10 percent (figure B5.6.1). Overall, Bolivia's fiscal policy reduces poverty slightly, by 0.3 point. Moreover, taxes, transfers, and subsidies reduced the Gini index by 1.2 points, and including the 13 percent of GDP spent on education and health reduced the Gini index by 6.7 points. Bolivia collected 5.6 percent of GDP in progressive personal income taxes to help finance its social expenditures.

Ethiopia collected 3.7 percent of GDP in indirect taxes in its 2016 Commitment to Equity year, but they represented only 1.6 percent of market income for the bottom 20 percent and 1.7 percent for the bottom 40 percent because of the high informality of consumption in rural areas (figure B5.6.2). This low incidence of indirect taxes combined with a modest 0.4 percent of GDP in direct transfers meant inequality was reduced by 2.0 points in cash terms. Despite the positive net impact of indirect taxes and direct transfers on the poorest three deciles, with poverty at market incomes above 30 percent and decile 4 paying more on average in indirect taxes than it received in direct transfers, short-term poverty increased by 1.3 points. Thus, direct transfers were progressive and equalizing, and almost completely offset the poverty-inducing burden of indirect taxes. Moreover, part of the small poverty increase is due to a low personal income tax eligibility threshold and a regressive land use fee, whereas electricity subsidies did not benefit poor households—who often do not use electricity. That is, with changes to personal income and land taxes as well as subsidies, Ethiopia likely could achieve a similar fiscal balance while reducing poverty.

FIGURE B5.6.1

Net incidence of transfers and indirect taxes in Bolivia

Sources: CEQ Institute, CEQ Data Center on Fiscal Redistribution, https://commitmentoequity.org/datacenter; World Bank data.
Note: The figure shows direct transfers, indirect taxes, and the net impact as a percentage of market income, by market income decile, for Bolivia.

(continued)

Bolivia and Ethiopia: Fiscal system impact on poverty and inequality *(continued)*

FIGURE B5.6.2

Net incidence of transfers and indirect taxes in Ethiopia
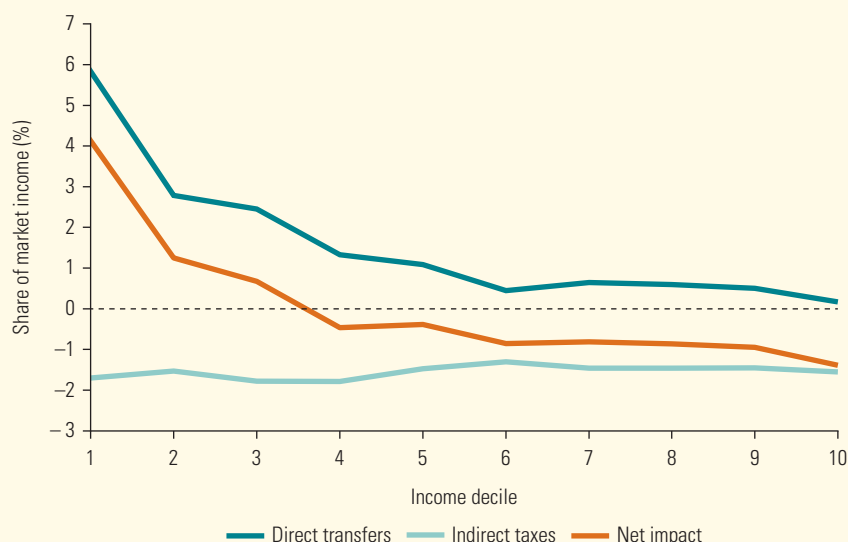
Sources: CEQ Institute, CEQ Data Center on Fiscal Redistribution, https://commitmentoequity.org/datacenter; World Bank data.
Note: The figure shows direct transfers, indirect taxes, and the net impact as a percentage of market income, by market income decile, for Ethiopia.

Conclusion

Taxes, transfers, and subsidies can have an immediate and significant impact on inequality and poverty in the short term. Richer economies tend to have more progressive impacts with taxes, transfers, and subsidies than poorer ones because the richer economies (1) raise more revenue and thus create more fiscal space for social spending, (2) have greater tax administrative capacity and so collect a greater proportion of tax revenues through progressive direct taxes such as PIT, and (3) are better able to means-test targeted direct transfers to poorer households. Nonetheless, at all income and capacity levels, there are examples of economies that pursue more progressive tax, transfer, and subsidy policies than others.

Importantly, when today's high-income economies were at similar stages of development to today's developing economies, their tax systems looked very different and collected much lower revenue: the United States collected only 7 percent of GDP in taxes in 1900 versus 37 percent a century later (Wallis 2000). In the nineteenth century, economies relied principally on trade tariffs, complemented by excise and property taxes. Taxation could be progressive, although its efficiency cost was arguably high: indirect taxes were akin to luxury taxes on specific products, and direct taxes on property relied upon simple heuristics to determine tax liabilities. In the case of the general property tax in the United States, for example, state and local governments levied high rates on both financial and real estate property, akin to an annual wealth tax (Dray, Landais, and Stantcheva 2022). Major changes in taxation occurred in the period between the two world wars, and shortly after, with the introduction and expansion of PIT and the

creation of payroll taxes to fund broader social insurance (Wallis 2000). These new instruments accompanied a substantial increase in government size, which continued at a slower pace in the 1960s and 1970s, with the expansion of payroll taxes and social contributions and the adoption of VAT.

A current of the literature argues that major progressive tax reforms, such as the expansion of PIT (or the adoption of wealth taxes), occurred only under exceptional circumstances: in the wake of warfare and following the economic collapse brought by the Great Depression (Scheve and Stasavage 2010, 2012). The COVID-19 pandemic also represents a unique shock calling for governmental response. Even if this view is historically correct, developing economies do not need to follow the circuitous route to progressive revenue mobilization of western economies. They can learn from this history and benefit from the increased efficiency and lower administrative cost of raising revenue, brought by better access to information, technology, and administrative know-how. Indeed, certain policy lessons emerge from the review of this chapter. Investments in tax capacity combined with the potential of new data and innovative technologies mean that developing economies may be able to collect a greater share of progressive direct taxation at earlier stages of development than in the past. A more progressive tax mix with greater fiscal equity can be achieved directly through revenue generation. Nonetheless, the majority of developing economy revenues will continue to come from indirect taxation in the medium term, which means the currently widespread use of VAT preferential rates and exemptions not only results in expensive expenditures that often benefit the rich but also reduces needed fiscal space for both investments in growth and social spending. The reliance on indirect taxes also means that the burden of progressivity falls more heavily on public spending, which will largely determine the net distributional impact of fiscal policy.

In turn, economies need to consider not only the long-term returns on different spending (as chapter 6 explores) but also who benefits in the short term. Subsidies are generally expensive, regressive, and distortionary; a transition away from subsidies to a broader and more targeted social safety net will likely reduce inequality and poverty but also create more fiscal space for needed investments to restart growth as economies try to recover from the shock of COVID-19. However, the need to finance an inclusive recovery in the face of limited fiscal space means the efficiency of redistributive spending beyond the use of subsidies also needs to be examined. For example, in 2015, Indonesia redirected substantial spending away from fuel subsidies to greater infrastructure investment and higher spending on health and social protection. Revisiting its social assistance spending mix, it moved away from subsidized food transfers that were costly but had relatively little redistributive impact. In addition, Indonesia massively expanded its conditional cash transfer program, which had the highest redistributive effect per dollar spent but little aggregate impact because of low budgets (see Indonesia, Ministry of Finance and World Bank 2015, 2020). It also invested significantly in improving its targeting of social assistance and the entire delivery chain over a number of years (Holmemo et al. 2020).

This brief snapshot of Indonesia's relative success in moving from heavy fuel subsidy spending to a more targeted but broad social assistance framework belies the complicated political economy of subsidy reform. Beaton, Lontoh, and Wai-Poi (2017) provide an in-depth review of six major subsidy reform attempts in Indonesia between 2000 and 2015, some successful and some not. In particular, they highlight the importance of coalition building, analysis and preparation, coordinated messaging, and timing and opportunism. Of particular relevance to the current chapter is

> the importance of social assistance in mitigating the impact of reforms over time and the virtuous circle that can take place between subsidy reforms and investments in social assistance capacity. As countries develop more sophisticated tools to assist businesses and households, it becomes easier for them to manage some of the negative impacts of higher energy prices through more effective, more-efficient policy tools. At the same time, subsidy reforms can liberate funding that allows for investments in social assistance capacity. Most of Indonesia's fuel price increases have

been coupled with some form of support targeted at the needy, and as this support has improved over time, so too has the likelihood of successful price increases. (Beaton, Lontoh, and Wai-Poi 2017, 134)

Inchauste and Victor (2017, 33–34) synthesize the experience of Indonesia as well as that of the Dominican Republic, Ghana, and Jordan, concluding that "the most successful reforms nearly always involve a large amount of political engineering" and that

energy subsidies often follow a life cycle. They begin with noble goals, such as helping to smooth out price fluctuations to protect the poor, but evolve in ways that inflate their cost and make reform politically difficult. One pattern evident across each of these cases is that breaking that life cycle has required the creation of alternative mechanisms for delivering benefits to the poor—notably cash transfers. Policy makers have, in most cases, created these programs in response to pressures and opportunities unrelated to the problem of energy subsidy. But once in place, the opportunity to adopt much more efficient social policy has made other reforms, including energy-related reforms, possible.

Chapter 7 explores these and other issues in more depth, such as the different progressive tax and transfer strategies available in different economy contexts and how new green and digital tax instruments could increase fiscal space. It also asks why subsidies remain such popular fiscal instruments and briefly considers the political economy of fiscal reform.

Notes

1. For a primer, see Horton and El-Ganainy (2020).
2. This chapter builds on Fuchs, Sosa, and Wai-Poi (2021), and is being extended to a global review of CEQ studies (Sosa and Wai-Poi, forthcoming). It also adds significant new material on taxation, original to this chapter.
3. The CEQ approach was developed by the Commitment to Equity Institute (CEQ Institute) at Tulane University. For information on the methodology, implementation guidelines, applications, and software of the CEQ approach, see Lustig (2018).
4. See CEQ Institute (https://commitmento-equity.org/datacenter/) for data from all CEQ Institute studies and many World Bank ones. OECD and additional World Bank data from individual country studies have been compiled for this report. The compiled database used in this chapter and in Sosa and Wai-Poi (forthcoming) are being publicly released.
5. The global ASPIRE data indicate that active labor market policies represent a small share of spending compared with that on social assistance, social insurance, and pensions as of January 2022 (see World Bank, forthcoming).
6. OECD compiles fiscal incidence data from each member, usually estimated by the national statistical agency, and in all cases representing the official incidence data for that economy. In five economies there are both OECD and CEQ data: Chile, Croatia, Poland, Spain, and the United States. In each case OECD data are used, despite not including the indirect tax and subsidy results from the CEQ data set, because OECD data are based on official economy estimates and are more recent than CEQ data—fiscal years 2011 (United States), 2013 (Chile), 2014 (Poland), 2016 (Spain), and 2017 (Croatia).
7. Based on the World Bank's country income and regional classifications (https://datahelpdesk .worldbank.org/knowledgebase/articles/906519 -world-bank-country-and-lending-groups).
8. The tax and spending levels and compositions from these databases as discussed in this chapter differ from the tax and spending components included in individual CEQ economy studies, which do not include all taxes and spending. This chapter uses the more comprehensive databases for a discussion of levels and compositions of taxes and spending, and the CEQ data for a discussion of incidence.
9. See International Centre for Tax and Development (https://www.ictd.ac/dataset /grd/); World Bank, BOOST (https://www .worldbank.org/en/programs/boost-portal);

International Monetary Fund Government Finance Statistics (https://data.imf.org/?sk =a0867067-d23c-4ebc-ad23-d3b015045405); IO Consortium Database, http://www.ag -incentives.org/); and Global Tax Expenditures Database (https://gted.net/data-download/).

10. Some of the analyses in this chapter present data aggregated by income group. Medians were used to aggregate results from CEQ fiscal incidence analyses. Figure 5.1, panel b, and figure 5.2, panel b, depict a synthetic category for each income group constructed using the median value (Gini index or poverty rate) at each income definition. Similarly, a synthetic income category is built using the median values per decile in figure 5.3, figure 5.5, figure 5.9, and figure 5.10. Consequently, each synthetic income category is not the median economy but the median results for each decile, and as such does not represent any single economy. Last, averages of observations at the economy level per income group were used to aggregate indicators depicted in figure 5.4, figure 5.7, and figure 5.8.

11. This redistribution is the effect only of direct taxes and transfers.

12. The empirical findings of this chapter are broadly consistent with the earlier findings of the 29-economy study in chapter 10 of Lustig (2018). The main difference is that this chapter finds a majority of developing economies increase short-term poverty through fiscal policy whereas the earlier study found this increase occurs less commonly. The earlier study used the extreme international poverty line (US$1.25 at the time, and now US$2.15) for all economies, whereas this chapter uses the international poverty line most appropriate to each economy's income level. The earlier study notes that at higher poverty lines the number of countries in which the headcount for consumable income is higher than that for market income rises (Lustig 2018).

13. If more poor individuals are lifted out of poverty by fiscal policy than moved into it, the poverty rate falls. Nonetheless, for a number of individuals, the taxes paid can be greater than the benefits received; these individuals can fall below the poverty line as a result (or fall further below if already there). See the discussion of "fiscal impoverishment" in Higgins and Lustig (2016).

14. In Ecuador and República Bolivariana de Venezuela, however, at the time of the CEQ study, indirect subsidies more than offset indirect taxes and further reduced poverty.

15. Poverty decreases (slightly) after fiscal policy in Bolivia in 2015 at the US$3.20-a-day international poverty line (2011 PPP) because many households in the poorest deciles are net fiscal beneficiaries. At the higher US$5.50-a-day line (2011 PPP), poverty increases (by 2 points) because many households in the higher deciles are net contributors.

16. This issue is reflected in the usually large gap between both total income/consumption in household surveys and the national accounts, and between the total PIT revenue estimated in surveys and the total revenue collected in administrative data. See Lustig (2019) for a discussion of reasons for missing top incomes in survey data.

17. Missing top incomes in household survey data are a common phenomenon in most countries (see, for example, Lustig 2019; Ravallion 2022).

18. Piketty (2003) and Piketty and Saez (2003) are the key reference works, and Atkinson and Piketty (2007, 2010) represent the main cross-country studies.

19. The indirect tax curve for LICs actually slopes mildly upward, indicating that richer households pay more as a percentage of income than poorer ones. This difference likely depends on the particular economy being studied, but a possible explanation is that VAT exemptions on foods and other staples are common in poor economies but that these items make up such a large share of the consumption basket that the effective indirect tax rate for poorer households ends up being less than that of richer households for whom nonexempt goods represent a greater share of their consumption basket. In some LICs, data on purchases in informal markets were available and explicitly modeled, which also contributes to an upward-sloping indirect tax curve.

20. The incidence of indirect taxes and subsidies, as well as in-kind spending, is not available for OECD economies.

21. Studies in Germany and the United States estimate that workers bear less than 40 percent of the incidence of corporate income taxes, the rest being borne by shareholders and

landowners (Fuest, Peichl, and Siegloch 2018; Suárez Serrato and Zidar 2016).

22. Inequality in land and property ownership is always larger than that of income, reflecting the even greater concentration of wealth than of income.

23. These differences reflect in part an older population profile in richer economies, but also the fiscal space to finance pensions.

24. Nonetheless, targeting transfers to poorer households is possible for economies of all income levels. See Grosh et al. (2022) for a comprehensive review.

25. Successful examples exist of subsidies being removed and temporary mitigation measures put in place, such as subsidy reform with temporary unconditional cash transfers in Indonesia (see World Bank 2012), as well as fuel and bread subsidies being removed first for richer households and then later for all households in Jordan (see Rodriguez and Wai-Poi 2021).

26. Not all energy subsidies are as regressive as blanket subsidies or price deduction for all consumers. For example, the electricity sector in a number of economies targets support to poorer customers, often in a timebound manner with clear eligibility criteria. Commonly such subsidies are by way of either lifeline tariffs or tariffs that step up with consumption volume. Lifeline tariffs provide very cheap electricity for a small level of initial consumption to ensure all can afford a basic amount of electricity. Stepped tariffs increase prices with each consumption block, initially being priced below cost recovery (a subsidy) and then reaching or even exceeding cost recovery for later blocks. The idea is that poorer households consume less and so benefit from the cheaper tariffs. Issues arise with the lifeline or stepped tariff approaches. Poor households are often quite large and the lifeline block usually quite small, so it does not help them very much in an energy crisis. Moreover, some poor households consume in large quantities through grouped apartment purchases, and others pay their landlord part of the metered amount; both of these groups are not well-served by lifelines. And poor households without meters don't benefit either. Moreover, with stepped tariffs, large poor households can cross-subsidize rich small households. Targeting based on

utility consumption can be inefficient because the consumption gradient slopes only mildly upward with income and depends where one lives (in terms of cooling and heating), how big one's household is, and so on. An alternative is to target utility subsidies not through tariffs but through a rebate on the bill, using the same mechanism as a cash transfer to determine who is eligible. This method may not help the poor who do not have a bill in their name (they get it through their landlord, get it off the black market, and so on).

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