

Expanding the Frontier of Taxation: Technology, Transparency, and Trust

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Abstract

Many low- and middle-income countries fall short in the threefold quest of generating sufficient revenue to fund essential public goods and services, minimizing efficiency losses, and ensuring equitable taxation. However, technological innovation, enhanced international coordination, and new insights about how trust shapes tax compliance are rapidly changing the fiscal landscape. This ushers in a new era of reform possibilities for tax policy and administration. This paper discusses how advances in technology, transparency in taxation of top earners and trust between the state and citizens may enable countries to advance on revenue adequacy, efficiency and equity.

1 Introduction

The current state of domestic revenue mobilization (DRM) in low- and middle-income countries (L&MICs) is unsustainable: Many countries fall short in the threefold quest of generating sufficient revenue to fund essential public goods and services, minimizing efficiency losses, and ensuring equitable taxation (IMF and World Bank, 2024). Tax revenues in many L&MICs are stagnant and, in the wake of shrinking development assistance and rising debt service obligations, countries struggle to fund development needs. Further, tax systems are riddled with inefficiencies—arising from tax rate disparities, ad-hoc exemptions and loopholes; weak tax administration and enforcement; and high compliance costs. These issues can collectively undermine productivity and hinder economic growth. Additionally, tax systems in L&MICs often lack progressivity, due to a reliance on indirect consumption taxes rather than on progressive direct income taxes, and to the de facto or de jure exemption of income earned at the top of the income distribution.

Despite the current shortcomings of DRM, technological innovation, enhanced international coordination, and new insights about how trust shapes tax compliance are rapidly changing the fiscal landscape. These three Ts—Technology, Transparency, and Trust—usher in a new era of reform possibilities for tax policy and administration. With the digitalization of tax systems, governments now have unprecedented access to granular tax data, offering novel insights into economic activities, taxpayer behavior, and the impacts of various tax instruments. These tools could enable governments to understand their tax bases better and target their collection and enforcement efforts accordingly. Furthermore, third-party information on individuals' incomes, assets and other tax bases are now more readily exchanged internationally, allowing for better coordination of tax policies and administration across borders, thereby reducing cross-border loopholes for tax avoidance and evasion used by the wealthy. In addition, trust is increasingly understood to be essential to the political feasibility and durability of tax reform. Fostering trust among politicians, citizens and bureaucrats improves the likelihood that reforms are accepted by citizens and rightly executed by bureaucrats. These developments enable more nuanced policy reforms that can improve efficiency and equity simultaneously, without compromising revenue generation.

Drawing on evidence from a new World Bank report on domestic resource mobilization (Bachas et al., 2026c), this paper examines research insights into how governments can raise revenue more efficiently and equitably in this changing landscape. It begins with a descriptive exercise on the current state of revenue adequacy, efficiency, and equity and examines the cross-country patterns of the relationships between these three objectives to show that many countries remain far from the empirical “frontier” where tradeoffs between these goals may be considered

binding. Next, it discusses how advances in technology, transparency, and trust may enable countries to advance on revenue adequacy, efficiency, and equity, with selected case studies to illustrate each point. Finally, it concludes with policy recommendations on how countries may maximize the gains from tax reforms based on the three Ts.

2 Revenue, Efficiency and Equity Shortcomings in Current Tax Systems

Designing tax systems that *raise sufficient revenue* while *minimizing efficiency costs* and *ensuring equity* remains a fundamental challenge worldwide. Governments levy taxes to finance public spending, redistribute income, and correct market failures—but the means of doing so matter enormously. On the efficiency side, taxation inevitably distorts individual and firm decisions across multiple domains: labor market choices (participation, hours, effort), business decisions (entrepreneurship, firm size, entry and exit), capital allocation (savings, investment, innovation), and even location choices. These behavioral responses, along with tax avoidance and evasion, create efficiency costs that can dampen productivity and economic growth. At the same time, equitable tax systems—those that treat taxpayers with similar abilities to pay alike (horizontal equity) and place higher burdens on those with greater capacity to pay (vertical equity)—are essential for the legitimacy and sustainability of tax-and-transfer systems and for reducing income inequality. Taxes perceived to violate these principles by being regressive or unfair may lead to social unrest and an erosion of tax morale and trust.

These challenges are particularly acute in L&MICs, where tax systems often perform poorly across all three objectives. As Figure 1 shows, L&MICs not only have lower tax-to-GDP ratios, but also rely more heavily on less progressive indirect taxes.¹

Revenue Adequacy Shortcomings. Despite rising spending needs, tax revenues as a share of GDP have remained largely stagnant in most developing countries. Median tax-to-GDP ratios have plateaued since 2010 across income groups, offering little progress in domestic resource mobilization (Figure 2a). This stagnation is particularly concerning for low-income countries (LICs), many of which also face a secular decline in external grants (Figure 2b). As the aid environment deteriorates, these countries will need to increasingly rely on their own tax systems to finance essential services—such as health, education, and infrastructure— and other

¹In high income OECD countries, direct taxes account for around 70 percent of all tax revenues, while in L&MICs, direct taxes account for around 45 percent of all tax revenues; the tax contributing the largest single share of total tax revenues in L&MICs is the VAT, while indirect taxes contribute a larger share of total tax revenues than direct taxes.

development priorities.

Mounting fiscal pressures are evident in cross-country data. Since the early 2000s, the median fiscal deficit in L&MICs has more than doubled, reaching a deficit of 4.4% of GDP in LICs, underscoring the widespread and growing imbalance between public revenues and expenditures. Primary balances remain in deficit across most countries, often indicating structural shortfalls in domestic revenue relative to core expenditure needs (Figure 2c). At the same time, debt service burdens are rising sharply (Figure 2d). In LICs, median interest payments absorbed 2.7% of government revenue in 2010 but surged to 9.2% by 2023. In lower-middle-income countries (LMICs), the share nearly doubled from 4.4% to 8.6% over the same period. In stark contrast, high-income countries (HICs) experienced a decline from around 4% to 2% of revenue.

Taken together, these stylized facts point to a fundamental tension: in many countries, strengthening revenue adequacy is becoming essential to sustaining public services and long-term development (see also World Bank, 2024a).

Efficiency Shortcomings. When taxes distort price signals, they generate efficiency losses that reduce overall welfare and can dampen growth by discouraging work, savings, investment, and education (Lee and Gordon, 2005). The efficiency cost is lower when lower rates are spread across a broad base than when high rates are levied on a narrow or responsive one — yet many countries deviate considerably from this principle. In L&MICs, this gap is especially pronounced: tax incentives, special regimes, and widespread informality compress the base, and weak administrative capacity compounds the problem, leaving these countries with markedly less efficient tax systems than their high-income counterparts.

This is illustrated in Figure 3a, which presents a broad summary indicator of tax system efficiency based on a combination of standardized indicators (VAT C-efficiency, CIT productivity, PIT productivity, dispersion of CIT rates, and firms' reported perceptions of tax rates and tax administration as obstacles to doing business).

Whereas efficiency debates in HICs tend to focus on rate levels, in lower-income countries the more pressing concern is base erosion. Exemption thresholds illustrate this well: VAT registration thresholds average 50 times GDP per capita in LICs and 24 times in LMICs, compared to just 1.6 times in HICs (Figures 4a and 4b). The PIT picture is starker — only taxpayers above 120% of median income in L&MICs are liable compared to 22% in HICs — effectively confining the personal income tax to the top of the distribution and limiting its revenue and redistributive potential.

High thresholds are often used to exclude small firms or low-income earners from tax obligations where compliance and administrative costs outweigh potential revenues (Keen and

Mintz, 2004; Jensen, 2022). Yet they are not costless. Threshold-driven distortions can misallocate resources, suppress productivity, and fragment supply chains (Guner et al., 2008; Garicano et al., 2016; Bachas et al., 2019; de Paula and Scheinkman, 2010; Gadenne et al., forthcoming).

A further source of base erosion comes from tax expenditures. Exemptions, reduced rates, and other tax reliefs average roughly one-quarter of total tax revenue, with reported levels broadly comparable across country income groups and, if anything, slightly lower in L&MICs than in OECD countries. Their opportunity cost may nevertheless be greater in L&MICs, where revenues are scarcer and unmet spending needs larger. Moreover, their composition mirrors the underlying tax mix: PIT concessions dominate in high-income OECD countries, whereas concessions on goods and services taxes account for the bulk of tax expenditures in L&MICs (Redonda et al., 2021). Rationalizing poorly targeted or ineffective concessions could therefore broaden tax bases and mobilize scarce revenue, generating particularly large fiscal and social returns in these countries (e.g., see Benzarti et al., 2024).

Another efficiency concern is the presence of disparities in effective tax burdens across taxpayers, sectors, locations, and income types. Figures 4c and 4d illustrate these disparities with novel cross-country evidence on CIT dispersion across industries, showing that poorer countries tend to have both higher corporate tax burdens and greater cross-industry variation. Such disparities can distort the allocation of capital and economic activity across sectors. A related example arises when PIT and CIT rates are not aligned. Taxpayers may then reclassify or shift income across tax bases, while the resulting wedges may also discourage incorporation, generating deadweight losses and reducing revenue.² These patterns underscore that reducing unwarranted disparities in tax burdens—whether across tax bases or sectors—could yield substantial efficiency and welfare gains.³

High informality and substantial tax avoidance and evasion, rooted in limited administrative capacity, are also major concerns in L&MICs.⁴ Their impact is evident in Figure 5, which compares the performance of VAT, CIT, and PIT across income groups relative to OECD high-income economies. These indicators—C-efficiency for VAT and productivity ratios for CIT and PIT—capture the combined effect of tax design and compliance.⁵ A clear income gradi-

²Waseem (2018) provides evidence from Pakistan, where after a rate hike, partnerships evaded more, moved into informality, and restructured their legal form — resulting in significant tax losses.

³For example, Zarate (2022) finds that eliminating wedges between formal and informal firms in Mexico City arising from labor and output taxes could increase welfare by about 20%.

⁴Informality disrupts the VAT chain much like exemptions or registration thresholds: informal firms do not charge VAT and, consequently, cannot credit VAT paid on their inputs (de Paula and Scheinkman, 2010; Ulyssea, 2020). See Adom (2026) and Gwaindepi (2025) for a recent discussion of taxation in the context of high informality.

⁵Although imperfect, these revenue performance indicators are used widely to benchmark tax systems. C-efficiency provides a meaningful benchmark for VAT by comparing actual revenue to the revenue that would be collected if the standard VAT rate were applied to all consumption (Ebrill et al., 2001). For CIT and PIT, productivity is defined as the ratio of tax revenue (as a percent of GDP) to the tax's statutory rate (Gallagher, 2005). In

ent emerges: LICs are the worst performers across all three instruments, while middle-income countries tend to perform closer to high-income benchmarks. For the VAT, relatively low performance reflects both policy gaps—such as widespread exemptions and reduced rates—and, more acutely in L&MICs, low tax compliance, as shown by Morrow et al. (2022).

Equity Shortcomings. Equity is a normative concept; what is judged equitable, fair, or just varies across individuals, communities, cultures, over time, and across socioeconomic, political, and fiscal circumstances (World Values Survey, 2025). In general, an equitable tax system will achieve both vertical and horizontal equity. Vertical equity requires taxpayers with greater ability to pay to bear a greater tax burden, in accordance with “ability to pay” or “equal sacrifice” principles. Horizontal equity requires taxpayers in similar circumstances to face similar taxes. Together, these principles shape the distribution of tax burdens across taxpayers. A common objective associated with vertical equity is tax progressivity, whereby the average tax *rate* increases with pre-tax income (or another appropriate welfare metric). Beyond these principles of tax equity, taxes, as part of the broader fiscal system, can contribute to social objectives including poverty alleviation.

L&MICs are constrained in their ability to achieve tax equity goals. Figure 3b illustrates the limited extent of redistribution: in poorer countries, the Gini coefficient changes little between pre- and post-tax-and-transfer income, whereas redistribution becomes progressively larger in UMICs and HICs. Moreover, widespread use of exemptions and concessions can lead to large horizontal inequities.

The underutilization of progressive PIT and the reliance on VAT in L&MICs (see Figure 1) leaves less scope for redistribution through taxation alone, giving expenditure policy a larger role in reducing inequality and poverty. L&MICs collect limited revenues from progressive PIT for three main reasons: high thresholds exempt a large portion of the potential taxpayer base (Figure 4b); average PIT rates are lower; and widespread informality creates administrative and enforcement constraints throughout the income distribution. VAT, by contrast, has a broader reach: in most countries, virtually everyone pays some VAT. But breadth of coverage is not the same as proportionality. If all consumption were taxed at a single rate, VAT burdens would scale with consumption expenditure. In practice, exemptions, reduced rates, registration thresholds, and informality cause effective burdens to depart from this benchmark. Informality, in particular, may make VAT mildly progressive as poorer households tend to purchase more from informal stores (Bachas et al., 2024). VAT should therefore not be treated as inherently

the absence of data on the potential tax base, GDP serves as a common benchmark. Without loss of generality, higher values indicate more efficient systems, though PIT and CIT productivity measures should be interpreted with caution. CIT productivity is informative, but PIT productivity is less reliable: it benchmarks revenue against the top marginal rate, penalizing progressive rate structures and sometimes suggesting lower “productivity” even when reforms are revenue-neutral or equity-enhancing. For details, see Larson (2025).

regressive or progressive. Moreover, its contribution to equity ultimately depends on the fiscal system as a whole: a broad-based VAT may finance targeted transfers that more than offset its burden on poorer households.

Limited use of other progressive direct taxes (such as capital income, property, and wealth taxes), together with tax avoidance and evasion by top income earners, further erodes equity in L&MIC tax systems. Figure 1 shows that property taxes are essentially irrelevant in L&MICs. In many countries, concessions and preferential income tax rates for capital income are common (Bergolo et al., 2023) even though they are highly regressive (Palomo et al., 2025; Clark et al., n.d.). When corporate earnings are an important source of income for richer individuals, preferential treatment or incomplete taxation of these earnings can reduce the progressivity of the income tax system (Scot et al., 2025). Similarly, when lower-capacity countries are unable to effectively implement Automatic Exchange of Information (AEOI) standards on offshore income, a lower risk of detection can facilitate shifting income to offshore tax havens (Johannesen et al., 2026).

Relationship between Revenue Adequacy, Efficiency and Equity Across Countries. Revenue adequacy, efficiency and equity are interconnected: Improving one dimension might entail tradeoffs or complementarities with the others. This section empirically examines the cross-section relationships between revenue adequacy, efficiency and equity. Revenue collection is measured as Tax/ GDP, efficiency is a composite index measured using the first component of a principal component analysis (PCA) incorporating VAT, CIT, and PIT efficiency, responses to World Bank Enterprise Survey reporting tax as an obstacle, and CIT dispersion. Equity is calculated as $(\text{Gini pre-tax} - \text{Gini post-tax}) / \text{Gini pre-tax}$. In the assessing the relationship between two variables (e.g. efficiency and equity), we residualize the third (i.e. revenue).

Figure 6 shows that tax revenue collection and fiscal equity are strongly positively correlated. Countries that collect more revenue tend to give greater weight to progressive direct taxes, such as PIT, relative to consumption taxes. In addition, higher revenue enables both direct transfers (e.g., cash or in-kind) and indirect transfers (e.g., public health and education), which generally reduce inequality.

The conventional public finance framework posits a trade-off between efficiency and equity (and thus revenue): greater redistribution requires higher revenue, which is often achieved through increased tax rates that result in higher deadweight losses. Figure 7 shows that for countries operating near the global frontier, there is a negative relationship between equity and efficiency, illustrating this trade-off. For example, the USA, Singapore and Finland may differ in their optimal balance of efficiency and equity based on social preferences.

However, the red circle in Figure 7 shows that most countries are far from this frontier—even after accounting for structural factors such as the share of self-employment or agriculture that affect their feasible frontier. Instead, weaknesses in tax policy and administration prevent them from achieving the levels of efficiency and equity that are possible for their chosen revenue level. This suggests that well-designed tax reforms can simultaneously improve efficiency, equity, and revenue.

3 How Technology, Transparency and Trust Can Advance Revenue, Efficiency and Equity

3.1 Technology

Tax administration rests on three core functions—identifying who and what is taxable, verifying what is owed, and collecting it (Okunogbe, 2021). Technological innovations are transforming governments’ capacity to perform all three. These innovations hold considerable promise: by giving governments a clearer picture of their tax bases, these tools can improve efficiency with better targeted enforcement and collection. These tools also carry an equity dividend: by extending coverage to previously hard-to-reach taxpayers, they can make taxation both broader and fairer.

Identification of Taxpayers and the Tax Base. With new digital tools, individuals and properties that once went unregistered—and therefore untaxed—can be made “legible” to the state at scale (Scott, 1998), at a fraction of the costs of manual systems. As more countries roll out digital identification systems such as biometric identification, tax authorities may use this identity to replace the typical stand-alone tax identity number (TIN). In 2022, this approach was responsible for 35 percent of registrations in Uganda (Scarpini et al., 2025) and over 65 percent in Ghana (Santoro et al., 2024a). This approach can improve the efficiency and equity of tax administration by revealing the share of citizens who remain unregistered for taxes. Linking this data to other data sources such as land records, vehicle registers, financial accounts and payment systems, customs databases and social security registers, goes a step further by identifying unregistered, tax-eligible individuals. This may be particularly important for improving vertical equity by bringing high income individuals and firms into the tax net. For example, in Pakistan, data matching allowed the national identity agency NADRA to identify some 2.4 million wealthy individuals who did not yet have national tax numbers, as well as 1.2 million who had tax numbers but were not filing (Clark, 2018).

Technology also provides important tools for identifying taxable assets such as real estate.⁶ Given the progressivity features of property tax, expanding its role in the tax system can improve equity. As shown in Figure 1, property tax is barely used in many L&MICs. This is often due to weak cadastral systems and incomplete taxpayer registries.⁷ Geospatial databases allow tax authorities to verify the location of properties and digital records provide updated ownership information.

A cautionary note is that identifying taxpayers or property is often insufficient to significantly increase tax revenues without adequate follow up and enforcement. For example, matching the business tax and commercial registries in South Africa identified over 300,000 new firms; however, only 2 percent of the forcibly registered firms paid taxes (Lediga et al., 2025). In Liberia, creating a digital property database and alerting property owners that they had been identified (by including the owner's name and property photograph on the notice) increased tax payment, but only when information on penalties was also included in the notice (Okunogbe, 2025).

Verification of Tax Liabilities. To verify tax declarations made by taxpayers, tax authorities rely on third-party information, such as wages reported by employers, capital income reported by financial institutions, or sales transaction data from electronic fiscal devices (EFDs). By reducing the scope for misreporting, technology tools can improve revenue collection. For example, mandating firms to use EFDs and e-invoicing has led to increases in tax revenue collection in different countries (Ali et al., 2017; Bellon et al., 2022; Fan et al., 2018; Hakizimana and Santoro, 2023; Mascagni et al., 2021).

Cashless payments, such as bank transfers, mobile money, and credit and debit cards, can also increase revenue collection. Even when these payments are not directly reported to the tax authority, they provide a paper trail of transactions that could be used in the event of an audit. For example, the 2016 demonetization shock in India led to a large increase in cashless payments as well as an increase in reported sales and tax payments (Das et al., 2023).

Technology tools for verifying liabilities can also improve efficiency and equity. Increasing the coverage of information on the size of different tax bases available to the tax authority, reduces the scope for evasion, hence promoting efficiency. In addition, advanced data analytics, such as machine learning and other artificial intelligence methods, can be used to analyze administrative tax data to create risk profiles for firms that can help target audits appropriately, thereby improving administrative efficiency. However, improving efficiency in administration may result in effective higher tax rates and lead to disincentive effects. These interventions are also

⁶Technology tools also help with the valuation of property (discussed in Section 3.2) and the collection of liabilities (discussed in 3.3)

⁷Coverage of the property tax registry can be very low e.g. 5 percent in Monrovia, Liberia (Okunogbe, 2013), 30 percent in Dakar (Knebelmann et al., n.d.), 30 percent in some local councils in Zambia (McCort et al., 2024).

likely to improve equity because people with hidden assets or multiple sources of income that are revealed through matching are more likely to be wealthy individuals.

Collection of Tax Liabilities. Technology tools such as withholding and automatic payments, electronic filing and payments, and online communication can simplify tax collection, improving equity in access and improving efficiency by reducing compliance costs and minimizing direct interaction with tax officials.

Digital solutions that allow taxpayers to file and pay taxes online—instead of in person or by mail—can improve tax administration in a number of ways. The most documented channel is that it improves efficiency by reducing transaction costs for taxpayers and reducing the number of interactions between taxpayers and tax officials which could provide opportunities for bribes and corruption (Okunogbe and Pouliquen, 2022; Kochanova et al., 2020). It is also associated with improved filing and accuracy, two indicators often overlooked in the literature (Santoro et al., 2024b; Scarpini et al., 2025). An additional channel of increased efficiency for the tax authority is that it produces digitized data that can be used for analysis, without the need for data entry from manual transactions. In addition, by having taxpayers interact with an online system to file and pay, instead of tax officials, electronic systems also contribute to horizontal equity.

Technology tools allow tax administrations to provide both general and personalized communication to taxpayers. For example, virtual tax offices and one-stop shops provide a single space or platform to share clear and accessible information on tax rules, procedures, and deadlines, reducing uncertainty for taxpayers, thereby improving administrative efficiency. Smart communication methods, such as text message and email, have also proven to be cost-effective tools for sending reminders and personalized compliance nudges to taxpayers, leading to increases in revenue (Cohen, 2024; Mascagni and Nell, 2022; Brockmeyer et al., 2019, e.g.).

Technology also facilitates the collection of new types of taxes, including taxes on mobile money and digital financial services, which carry notable efficiency and equity costs. In settings with widespread informality and limited enforcement capacity, these taxes are particularly appealing because they can be withheld at source using mobile operators and fintech firms as intermediaries and are seen as a way to raise revenue quickly and reach economic activity that conventional income tax and VAT systems may miss. However, revenue yields have been small in most cases whereas efficiency and equity costs are large as these taxes discourage financial inclusion as users revert to cash (Barczay et al., 2025), and the costs are disproportionately borne by lower-income and unbanked users, who have few alternatives.

Summary of Evidence on Technology. Figure 8 below summarizes the evidence from the aca-

demic literature on the impact of technology on these three areas of tax administration. It focuses on causally identified recent empirical findings published since 2011 in low- and middle-income countries. Panel (a) illustrates the impact of these interventions on the extensive margin of compliance—that is, the proportion of taxpayers who comply—measured in percentage points. This panel aggregates 26 interventions from 11 studies. Panel (b) reports revenue gains as a percentage of the mean of the comparison group, based on 34 interventions drawn from 20 distinct studies.⁸

The pattern of results from the figures indicates that third-party data is particularly effective in raising tax revenues, whereas facilitation and communication measures are more impactful in broadening taxpayer compliance at the extensive margin. The evidence base on identification-focused digital reforms remains sparse and mixed, highlighting an area for future research. One possible explanation is that identification is only the beginning of the compliance journey. Without the additional steps of collecting information on tax liabilities and ensuring collection, it is unlikely to yield strong revenue impacts.

The wide range of negative, null, and positive results from different interventions in Figure 8 shows that not all digital tax reforms are successful. While the different studies are from different contexts and cover different tax instruments, there are some broad themes that support the success of technology reforms in taxation, such as having an institution-wide strategic vision, developing essential legal and regulatory frameworks and ensuring complementarity between technology and tax officials.

3.2 Transparency and Taxation of Top Economic Actors

Globalization has made mobile tax bases both more important and more difficult to tax. At the same time, rising market power and wealth concentration have renewed policy attention to the taxation of *top economic actors*—multinational corporations and high-net-worth individuals.

Bringing these actors into the tax net is uniquely challenging. The mobility of their real and reported activity, combined with their opaque and complex organizational structures, makes enforcement difficult. Their taxation is also a politically charged topic: while these actors are often credited as drivers of innovation and growth, there is also the concern that they benefit disproportionately from existing tax rules, and that the broader economy does not always share in their gains. Their fiscal contribution is nonetheless pivotal—both because they command a disproportionately large share of national income, and because the perceived fairness of any tax system rests heavily on whether those at the top are seen to pay their share.

⁸The number of studies in the two panels is based on the outcomes reported in different papers.

Traditionally, little was known about the full activities of top economic actors due to limited data availability and institutional opacity. Over the past decade, however, a shift in tax transparency has taken place. Triggered in part by revelations from leaked data in the Panama (2016), Paradise (2017) and Pandora Papers (2021), policymakers and the public increasingly recognized that achieving effective and equitable taxation in a globalized economy requires enhanced transparency. In response, they implemented new systems of data collection, information exchange, and coordinated policies to shed light on previously unobservable activity, both across borders and through complex ownership networks.

Automatic Exchange of Financial Information (AEOI): Financial income earned by residents in foreign bank accounts should, in principle, be subject to personal income tax. However, this income has historically gone mainly unreported in the taxpayer's country of residence. Exchange of information between tax administrations was limited in general, and essentially non-existent with certain jurisdictions. The introduction of the Common Reporting Standard (CRS) in 2016 aims to close this gap by mandating that foreign banks report the accounts of the residents of all other countries.

AEOI might curb offshore evasion through two main channels: ex-ante, the expectation that tax administrations will receive third-party data on offshore accounts may induce taxpayers to voluntarily disclose (or repatriate) assets, before sanctions occur, often facilitated by tax amnesty programs (e.g., see Londoño-Vélez and Tortarolo, 2025). Ex-post, the new data improve enforcement by allowing tax administrations to cross-check declarations and detect hidden income via audits.

Cross-country studies find that the introduction of the CRS led to a large drop in offshore accounts—up to 25 percent in foreign-owned deposits held in tax havens—likely reflecting its broad coverage and automatic nature (Beer et al., 2019; Cusi et al., 2020; Janský et al., 2024). Country-level micro evidence confirms substantial compliance gains: offshore reporting gaps fell sharply following the CRS announcement in Denmark and France (Boas et al., 2024; Davoine et al., n.d.), while in Colombia and South Africa, where administrative capacity may be more constrained, larger gains came when AEOI information was actively used for enforcement (Bachas et al., 2026b; Johannesen et al., 2026). Overall, AEOI appears to have substantially improved offshore tax compliance, but developing countries may face greater challenges in reaping its benefits. Transparency needs to be backed by credible administrative capacity and active enforcement, while capacity asymmetries in information exchange can limit access to useful information: countries with limited capacity to collect and transmit information on foreign residents may also receive less information from partner jurisdictions (Alstadsæter et al., 2023).

Despite the reach of the CRS, coverage gaps remain: aggregate data suggest that CRS-reported wealth is 30% lower than independent benchmarks (Boas et al., 2025). Reporting gaps stem from weak due-diligence and complex ownership structures that obscure beneficial owners. Certain entities—such as privately controlled investment companies—can register as financial institutions, relieving the banks that manage their assets from reporting obligations and de-facto creating “shell banks” that bypass third-party reporting (Noked and Marcone, 2023; Bomare and Collin, 2025). Some of the reduction in offshore financial assets also reflects a relocation of assets to non-CRS countries (such as the United States), to assets not covered by CRS (such as real estate), and to complex investment vehicles less visible under AEOI (Beer et al., 2019; Casi et al., 2020). New evasion channels are also emerging such as citizenship-by-investment programs (“golden visa”) and crypto-assets (Knobel and Heitmüller, 2018; Langenmayr and Zyska, 2023; Baer et al., 2023).

Beneficial ownership reporting. Identifying the ultimate individual owners of firms operating in a country is challenging. This opacity creates obstacles for tax policy and administration: income can be concealed within complex corporate structures, labor and capital income are difficult to disentangle, firms may be used to finance personal consumption, and related-party transactions can facilitate collusion or abuse. Beneficial ownership reporting addresses these challenges by requiring firms to disclose their ultimate natural person owners. These can be foreigners or domestic persons.

The adoption of Beneficial Ownership Registries (BORs) represents a major transparency innovation of the last decade. While only a handful of countries maintained such registries a decade ago, by 2025, 89 countries had adopted them (Figure 9). Adoption is higher among HICs, but 37 L&MICs now operate a live BOR. Together, these registries cover about 70% of the world’s population. Notably, nearly half of countries considered as low-tax jurisdictions have also implemented a BOR, potentially enabling improved exchange of information upon request. Governance arrangements vary: in most countries, BORs are administered by company registrars, while others place them under the authority of tax administrations, central banks, ministries of finance or commerce, and ministries of justice (Open Ownership, 2025). Roughly half of BORs are open to the public (under certain conditions), whereas the other half are accessible only to competent authorities.

Given how recent the implementation of BORs is and the secrecy surrounding enforcement actions, little is known about their effectiveness in combating tax evasion. A simple use of BOR information is to flag potential mismatches between reported personal income and firm ownership: for example, individuals declaring low income but identified in the BOR as ultimate owners of high-revenue firms may be prioritized for audit. A more sophisticated use involves mapping networks of related firms and individuals (e.g., common ownership links across mul-

multiple entities) and detecting complex ownership structures (e.g., chains involving offshore entities) that are statistically more likely to be associated with evasion schemes. In addition, BORs are directly useful for tax collection. For example, they help ensure that withholding obligations (e.g., on dividends, interest, and royalties) are applied correctly based on the residency of the BO, rather than that of an intermediate entity.

Country-by-Country Reports (CbCR). Multinational corporations can exploit differences in tax rates across countries to report profits in low-tax jurisdictions, even when their real economic activity in these locations is minimal. Historically, there was little information regarding where firms conduct their economic activity versus where they book their profits. The introduction of CbCR requires large multinational groups to disclose key indicators of their global operations and profit allocation across countries. Together with the global minimum tax on corporate income (Pillar II) implemented in 2024, these measures aim to reduce profit shifting and ensure that corporations pay a fairer share.

The first major coordinated effort came with the OECD/G20 Base Erosion and Profit Shifting (BEPS) project in the 2010s: a complex set of anti-avoidance rules that achieved, at best, mixed results. Global time-series estimates show no clear decline in the scale of profit shifting over time, only a slowdown in its growth rate (Wier and Zucman, 2022). Multiple studies point to persistent implementation challenges of the BEPS rules. For example, transfer pricing regulations in Chile failed to curb multinational enterprise (MNE) transfers to low-tax countries as firms found ways to circumvent the rules (Bustos et al., 2025). In Uganda, an anti-avoidance rule targeting excessive debt deductions did not lead to higher reported profits or tax payments by MNEs; instead, it was associated with contractions in turnover, employment, and trade (Bashir et al., 2024). Evidence from Chile, Spain, and Uruguay suggests that the BEPS rules mainly raised MNEs' demand for tax advisory services rather than curbing avoidance (Bustos et al., 2025).

Yet, the BEPS agenda led to a key tax transparency innovation: the launch of CbCR.⁹ Mandating CbCR marks a decisive step toward shedding light on profit shifting and early analysis of the (aggregate) data confirms the size of profit shifting estimated via partial and indirect sources. CbCR also paved the way for the introduction of the Global Minimum Tax (GMT), or Pillar II of the OECD/G20 Inclusive Framework. In 2021, 137 countries agreed that MNEs face a minimum effective tax rate of 15 percent on their global profits by the 2024 fiscal year. The GMT tax base is determined by (i) consolidating the activity of all affiliates of an MNE within each country, (ii) calculating the ratio of taxes paid to profits earned, (iii) if this ratio is under 15%, compute the top-up tax (the difference between taxes owed under a 15% rate minus current taxes paid), (iv) deduct from the top-up tax a share of measurable economic activity in the country (proportional

⁹CbCR was introduced as part of Action 13 of the OECD/G20 base erosion and profit shifting (BEPS) project.

to payroll and tangible assets).

3.3 Trust and the Political Economy Process

Taxation is inherently a political process. Even well-designed tax policies may not be adopted, or when adopted, may not work as intended. Effective tax systems depend on the active cooperation of the three groups involved in the tax process: politicians who design policy, bureaucrats who implement it, and citizens who comply with it.

Trust among politicians, bureaucrats, and citizens can increase revenue, improve efficiency, and make taxation fairer. Because enforcement is both costly and imperfect, voluntary compliance is essential as it allows revenue to be raised efficiently and the tax burden to be distributed fairly. Citizens' decision to comply depends on their perceptions of fairness of both tax policy and administration, and whether they believe that politicians spend public revenues wisely. A similar logic applies to the relationship between politicians and administrators. Policymakers cannot directly oversee every aspect of implementation, but they can have greater assurance that their intentions will be carried out when tax officials have both the skills and the incentives to do so effectively. These forms of trust sustain a fiscal contract, with each member of the triad fulfilling their role. Where that contract holds, governments also have a stronger political foundation for reform, and reforms are more likely to endure.¹⁰

The academic literature points to three primary channels through which trust among politicians, bureaucrats, and citizens can improve the tax system: trust in how taxes are designed and implemented, trust in how revenues are spent, and beliefs about whether others are paying their fair share.

Trust in how taxes are designed and implemented. Citizens are more likely to comply with taxes when they trust the tax system is fair and equitable. Across countries, citizens favor vertical equity, with higher-income individuals paying a larger share of their income in taxes (Heilbrun, 2025; Hoy, 2025; Campos-Vazquez et al., 2023; Stantcheva, 2021), and horizontal equity, with individuals who have similar incomes paying a similar amount in taxes (Bachas et al., 2026a). Recent evidence connects these stated preferences to actual compliance behavior. In Argentina, informing households about the progressivity of the property tax system increased tax payments, although only among low-income households (Ajzenman et al., 2024). In Brazil, horizontal inequities in property tax burdens across neighboring areas lowered tax compliance (Best et al., 2025).

¹⁰A long tradition in political economy considers trust central to state effectiveness (Levi, 1997; Putnam et al., 1994; Besley and Dray, 2024).

Trust in tax design can break down when organized interests exert disproportionate influence over policymaking. This can undermine tax compliance, equity, *and* efficiency. This is because organized interests often push for tax provisions that benefit a few groups at the expense of the wider public, resulting in less equitable and more distortionary tax policies (Grossman and Helpman, 1994; Krueger, 1974). Examples are widespread: in Bangladesh, Chile, and Tanzania, business groups have protected elite interests, blocked reforms, and expanded tax exemptions (Bak and Therkildsen, 2022; Fairfield, 2010, 2013; Hassan and Prichard, 2016). Including a broader range of citizen preferences in tax policy and making politicians more accountable to citizens can help counter these pressures, potentially generating a “triple win”: more equitable tax policies, fewer distortions, and greater willingness to pay taxes.

Citizens experience the tax system through the bureaucracy, so their perceptions depend not only on how taxes are designed but also on how they are implemented. Even fair tax rules can produce unequal outcomes when tax officials have wide discretion or limited capacity. Recruiting capable and motivated officials, setting the right incentives, and monitoring performance can help keep tax administration aligned with policy goals. For example, one study found that a nonfinancial incentive—giving the best-performing tax officials priority in choosing their posting location—increased revenues (Khan et al., 2019). Technology can also help reduce opportunities for discretion and bias. In Tajikistan, the introduction of electronic tax filing reduced the differential treatment of firms in the tax system (Okunogbe and Pouliquen, 2022).

Trust in how revenues are used. Citizen support for taxation depends in part on how governments use tax revenue. Studies find that citizens express greater support for taxes when governments provide the goods and services they value (Giacobasso et al., 2025; Sandholtz and Vicente, 2024; Orgeira et al., 2024; Prichard, 2019). This finding is consistent with broader evidence that shows good economic outcomes improve perceptions of government performance, which in turn increase trust in the state (Besley et al., 2025).

Politicians and bureaucrats may need to make the benefits of taxation more visible and clearly communicate them to citizens to encourage compliance. Causal evidence on whether better public services lead people to pay more taxes, mostly from studies of property taxes, is mixed: infrastructure investments increased tax compliance in some settings but had no effect in others (Brockmeyer et al., 2024; Fernandez Sierra et al., 2025; Khan et al., 2022; Carrillo et al., 2021). While more research is needed to better understand the sources of this variation, some evidence suggests communication is key. A study in Sierra Leone finds providing citizens information about services provided by the local government increased property tax compliance (Montenbruck, 2023).

Poor government performance has also been shown to reduce citizens’ willingness to pay taxes.

When citizens see politicians and bureaucrats granting favored tax exemptions, tolerating tax avoidance by elites, or misusing public funds, they may view the system as unfair and have less reason to pay their own taxes (Nichelatti and Hiilamo, 2024; Okunogbe and Edjigu, n.d.; Moore et al., 2018). Reducing corruption can therefore improve compliance in two ways: by ensuring tax rules are applied fairly and by making better use of tax revenue. This can kickstart a virtuous cycle of better government performance, greater trust, and higher compliance.

Beliefs about whether other taxpayers comply. Citizens' preferences about taxation do not exist in a vacuum; they are heavily influenced by how they perceive *other* taxpayers' behavior. When few people pay taxes, individuals may have little reason to comply, even if they themselves support higher revenues and better public services (Bergolo et al., 2020; Castañeda, 2024). Evidence from Indonesia, for example, shows that firms are more likely to evade taxes when they believe their competitors evade taxes (Hoy et al., 2024). Such behavioral responses suggest that moving toward a self-reinforcing higher-level equilibrium, where most people pay taxes (Nathan et al., 2024), may be challenging without improvements in enforcement.

Some countries have experimented with making citizens' tax behavior public to influence compliance, but the effects are mixed. Public disclosure increased compliance in Pakistan (Slemrod et al., 2022), but decreased compliance among some taxpayers in Uganda because it revealed compliance was less common than some had initially believed (Manwaring and Regan, 2025). In contrast to the social-norms intervention, enforcement reminders in Uganda raised more revenue.

Tax compliance may also depend on whether citizens trust that their group is fairly treated and represented by the government. For example, a recent survey in Somalia, which has the lowest tax-to-GDP ratio in the world, finds suggestive evidence that citizens may be less willing to pay taxes when a different ethnic group is in power (World Bank, 2024b).¹¹ This suggests another mechanism for improving compliance: better government performance can increase trust in government within a group, which can strengthen the norm of paying taxes.

4 Policy Lessons

This paper has described how developments in technology, transparency and trust shape the possible gains countries may make in ensuring adequate revenues, alongside efficiency and equity. Below are a few cross-cutting lessons to help countries increase the likelihood that these

¹¹Similar patterns have been observed even in high-income countries. In the United States, Cullen et al. (2021) finds taxpayers in counties aligned with the president's party report higher taxable income.

potential gains are realized.

First, it is crucial for countries to invest in the capacity to use newly available technology and transparency tools, such as advanced data analytics and AI to analyze e-invoicing data, and to access and use information shared by other countries for enforcement. This includes investing in both skills and training of tax officials, as well as the infrastructure and systems to process data. In parallel, it is crucial to invest in capacity for public service delivery to promote trust from citizens.

Second, it is important for tax authorities to adopt an institution-wide strategic vision and implement reforms in sequence to maximize gains. Piecemeal reforms introduced without sufficient alignment with core administrative goals or institutional capacity risk becoming siloed solutions that add complexity without delivering meaningful gains. Relatedly, tax authorities should anticipate strategic responses by taxpayers and preemptively close loopholes. For example, a well-documented response of taxpayers when the state obtains information on one input into their tax liability is to shift to other determinants of liability for which the state lacks information.

Third, governments must establish legal and regulatory frameworks to support reforms. For example, when introducing new technology that enhances enforcement capacities—such as by improving liability assessments and tracking defaulters—it is important for the legal system to support timely prosecution and sanctioning. Otherwise, long delays in court proceedings can undermine the effectiveness of the reform. A particularly important area for reforms that involve data exchange is privacy and trust, especially if sharing tax data is perceived as another form of surveillance. To avoid backlash, tax authorities should be transparent about what data they collect and highlight the benefits to taxpayers, such as helping to simplify compliance or promote equity. Importantly, authorities must build confidence in the level of security they provide for tax data, such as encryption, access controls, and audit trails.

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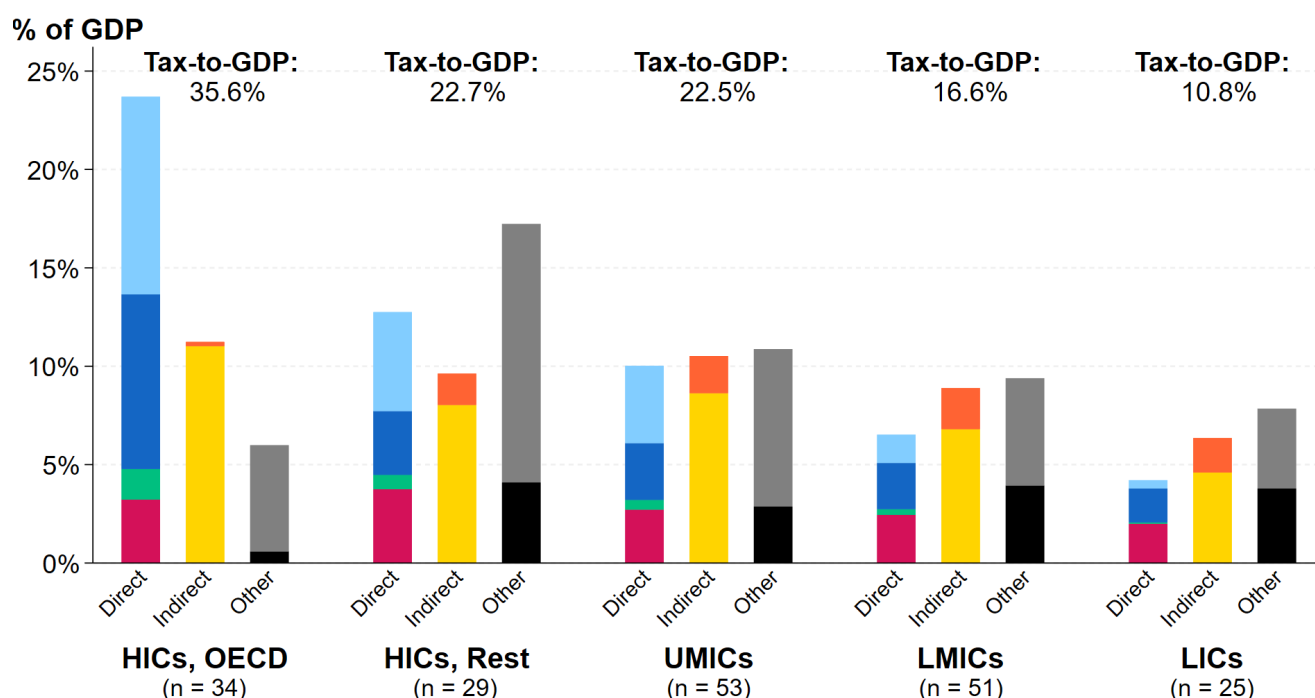
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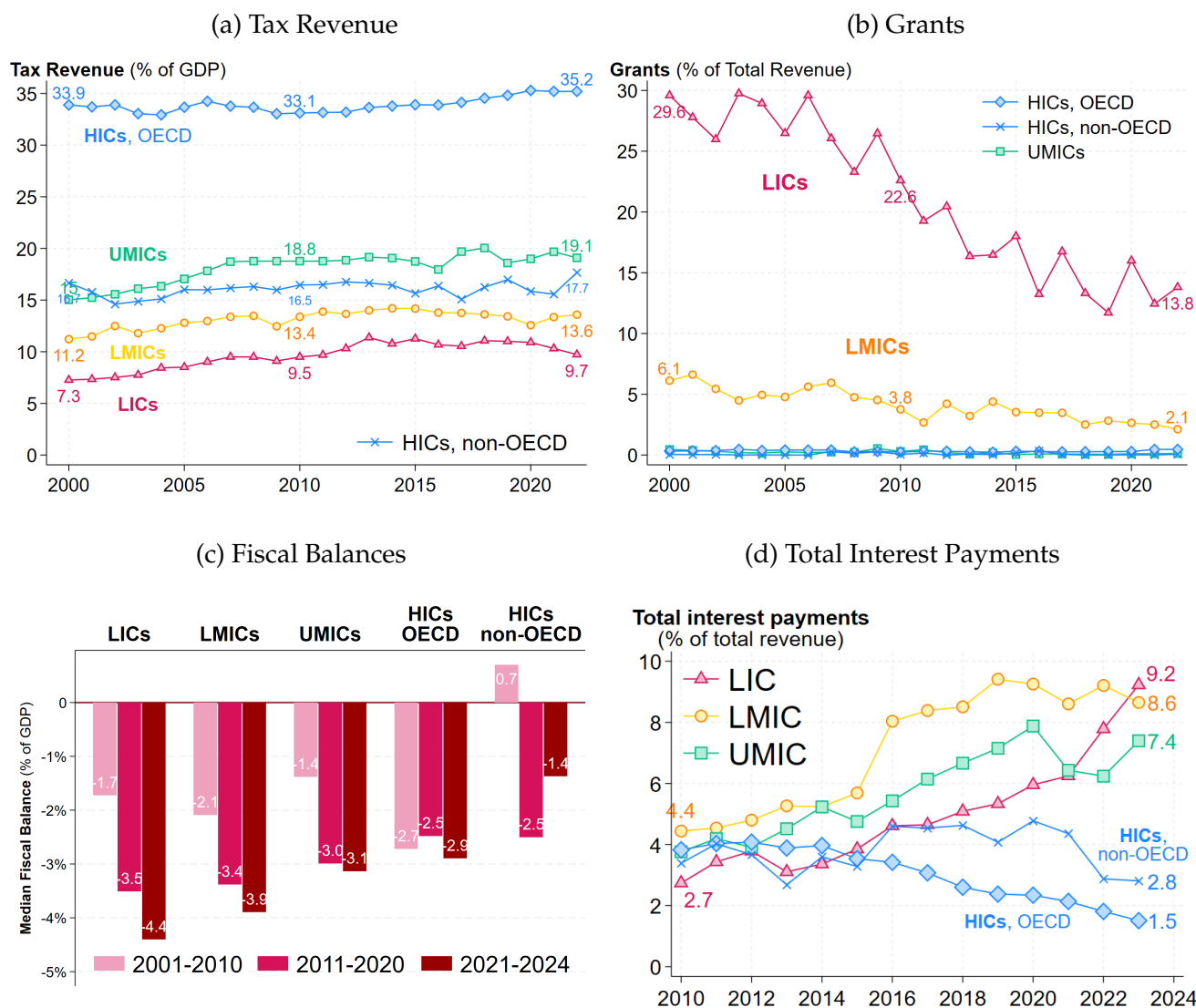
Figures

Figure 1: The Tax Mix Across Income Groups



Notes: This figure shows the composition of government revenue as a percentage of GDP, aggregated by income group and revenue classification (Direct taxes, Indirect taxes, Other revenue). Data by revenue type represents country averages from 2018 to 2022. The sample includes 192 economies. Parentheses below income groups indicate the number of countries in each group. Average Tax-to-GDP ratios are calculated as the sum of Direct and Indirect taxes within each income group. HICs = High-Income Countries; UMICs = Upper-Middle-Income Countries; LMICs = Lower-Middle-Income Countries; LICs = Low-Income Countries; CIT = Corporate Income Tax; Property = real property taxes, wealth, and inheritance taxes; PIT = Personal Income Tax; SSC = Social Security Contributions; VAT = Value-Added Tax (including sales and turnover taxes); Other Indirect = excise taxes and other unallocated taxes on sales and production; Trade = customs duties and export taxes (excludes VAT and excise on imports). Other taxes (not classified in any revenue category, but included in tax-to-GDP ratios) represent, on average, 0.8% of GDP in HICs (OECD), 1.07% in HICs (non-OECD), 1.34% in UMICs, 0.96% in LMICs, and 0.35% in LICs. *Source:* Own elaboration using the International Monetary Fund's World Revenue Longitudinal Database.

Figure 2: Indicators of Fiscal Space, by Income Group

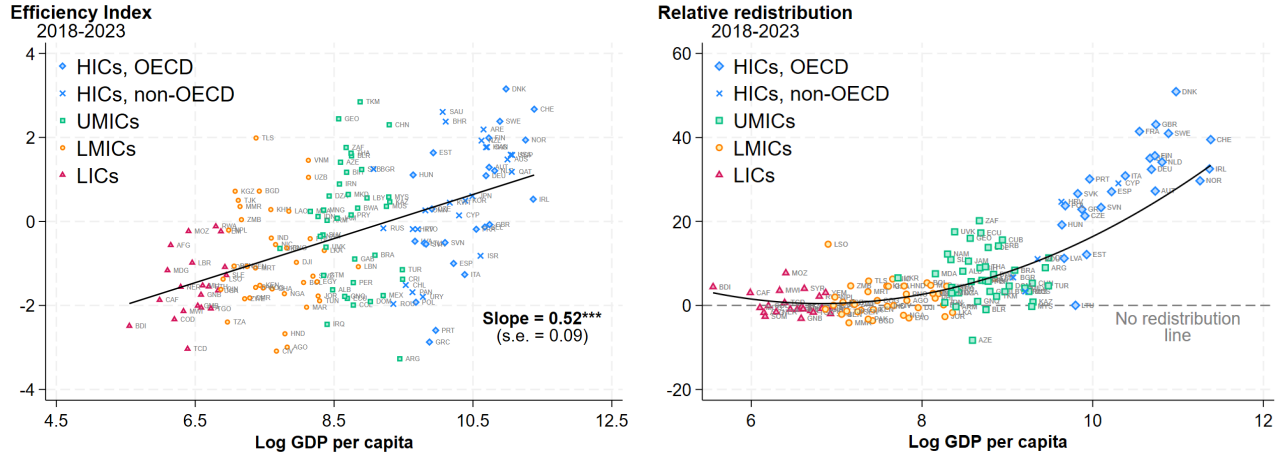


Notes: Panel (a) shows the evolution of tax revenues (including social security contributions) as a share of GDP over 2000-2022. Panel (b) shows the evolution of grants as a share of total government revenue over the same period. Both panels report annual median values by income group. The sample covers 156 countries with populations above 1 million: high-income countries (HICs; 30 OECD and 18 non-OECD), upper-middle-income countries (UMICs; 41), lower-middle-income countries (LMICs; 42), and low-income countries (LICs; 25). Panel (c) shows the evolution of fiscal balances as a share of GDP over 2001-2024. Fiscal balances are defined as total government revenue minus expenditures. Country-level averages are first computed for each subperiod, after which the median across countries is reported for each income group. The sample covers 158 countries with available data and populations above 1 million: HICs (32 OECD and 18 non-OECD), UMICs (41), LMICs (42), and LICs (25). Panel (d) shows the evolution of net interest payments as a share of total government revenue over 2010-2023. Net interest payments refer to general government interest expenses on domestic and external borrowing, net of any interest income received. Annual median values are reported by income group. The sample covers 152 countries with available data and populations above 1 million: HICs (32 OECD and 16 non-OECD), UMICs (39), LMICs (41), and LICs (24). Source: Own elaboration using IMF's World Revenue Longitudinal Database for panels (a) and (b), and IMF's World Economic Outlook for panels (c) and (d).

Figure 3: Tax systems in L&MICs are both less efficient and less equitable

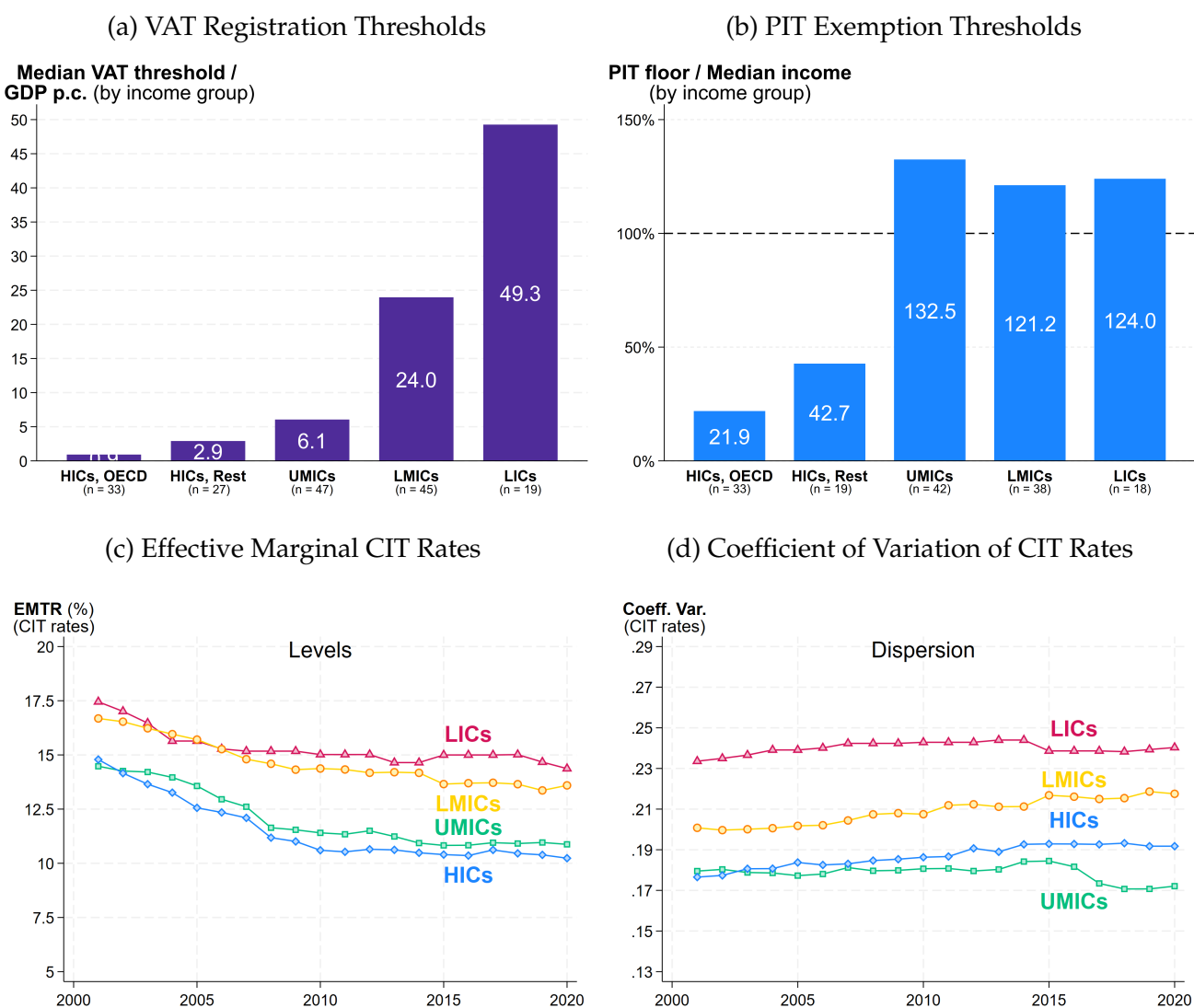
(a) Efficiency measure

(b) Equity measure



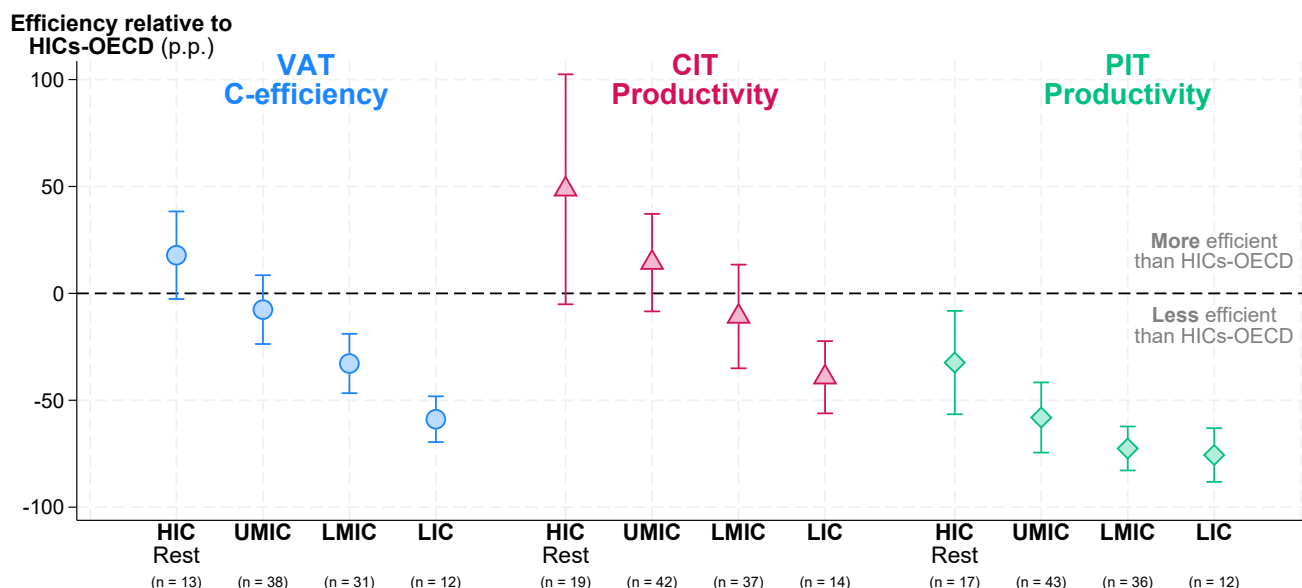
Notes: This figure shows the correlation of tax efficiency (left panel) and tax equity (right panel) with the log of GDP per capita. Country-level averages are computed over 2018–2023. The efficiency index is constructed via Principal Component Analysis (PCA) on six standardized efficiency indicators: VAT C-efficiency, CIT productivity, PIT productivity, dispersion of CIT rates, and firms’ reported perceptions of tax rates and tax administration as obstacles to doing business. The first PCA component is used as the composite index, as it explains most of the variation and all variables load positively (i.e., contribute in the same direction). VAT C-efficiency and the two World Bank Enterprise Surveys perception measures have the strongest weights. The equity measure shows the difference between Gini coefficients for pre- and post-tax-and-transfer income, scaled by the pre-tax-and-transfer Gini (relative redistribution). Pre-tax-and-transfer corresponds to factor income, adding pensions and subtracting contributions. The sample covers countries with populations above 1 million. Income groups are distinguished by markers and colors: High-income countries (HICs), upper-middle-income countries (UMICs), lower-middle-income countries (LMICs), and low-income countries (LICs). The reported coefficient and standard error (s.e.) correspond to the fitted linear relationship between the tax efficiency index and the log of GDP per capita. The slope is significant at the 1% level (denoted by *** in the figure). The right panel shows a quadratic fit to capture non-linearities. *Source:* Own elaboration using data from the U.S. Agency for International Development (USAID) Collecting Taxes Database, World Development Indicators, World Bank Enterprise Surveys, the Research School of International Taxation’s International Tax Institutions database, and the World Inequality Database (WID).

Figure 4: Higher VAT and PIT Exemption Thresholds, Higher Levels and Dispersion of CIT Rates in Lower-Income Countries



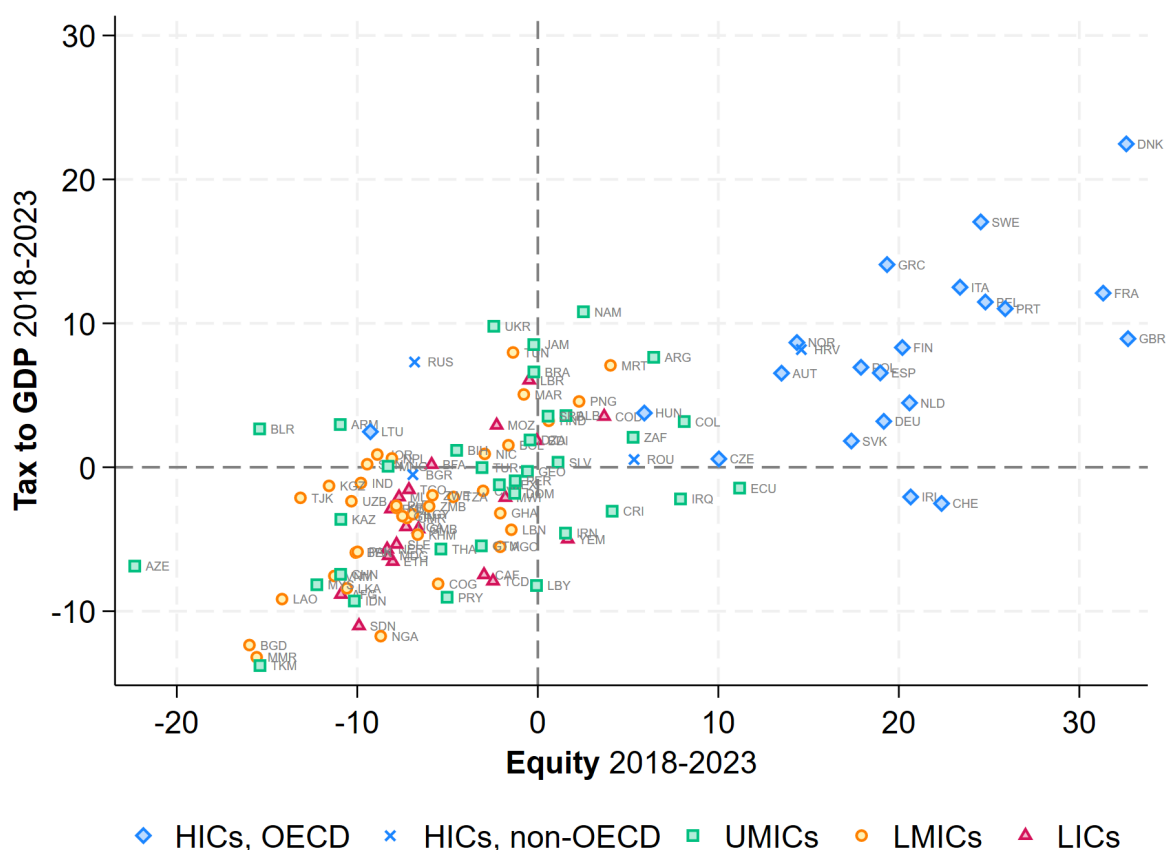
Notes: Panel (a) shows the median ratio of the VAT registration threshold to current GDP per capita in 2019 or 2020, depending on data availability. The VAT registration threshold is the annual taxable turnover at or above which registration for VAT is required. Panel (b) shows the average ratio of the PIT exemption threshold to median pre-tax national income in 2023 or 2024, depending on data availability. The PIT exemption threshold is the income level at which tax liability becomes positive for a single, childless individual after allowances, deductions, and tax credits. Median pre-tax national income is the income level required to enter the top 50% of the income distribution in each country, following the World Inequality Database's Distributional National Accounts (DINA) methodology. In panels (a) and (b), parentheses indicate the number of countries in each group. Panel (c) displays the average CIT effective marginal tax rates (EMTRs). Panel (d) presents the coefficient of variation of CIT EMTRs across 19 industries within each country. The EMTR is a measure of the marginal tax burden on a hypothetical marginal investment project (Devereux and Griffith, 1998). These forward-looking tax rates are computed by McAuliffe et al. (2023) at the country–industry–year level by weighting asset-specific depreciation allowances with industry-level asset shares. Their approach covers seven asset categories: buildings, machinery, intangible fixed assets, office equipment, computers, vehicles, and inventories. Panels (c) and (d) use a balanced panel of 144 countries: high-income countries (HICs; 61), upper-middle-income countries (UMICs; 37), lower-middle-income countries (LMICs; 37), and low-income countries (LICs; 9). Source: Own elaboration based on USAID's Collecting Taxes Database, IMF's Tax Policy Assessment Framework (IMF's TPAF), and World Development Indicators for panel (a); EY Worldwide Personal Tax and Immigration Guide 2023-24, among other sources (PwC, tax expenditure reports, general tax codes, etc.), and World Inequality Database for panel (b); and Research School of International Taxation's International Tax Institutions database compiled by Wamser et al. (2026) for panels (c) and (d).

Figure 5: Tax Performance Indicators



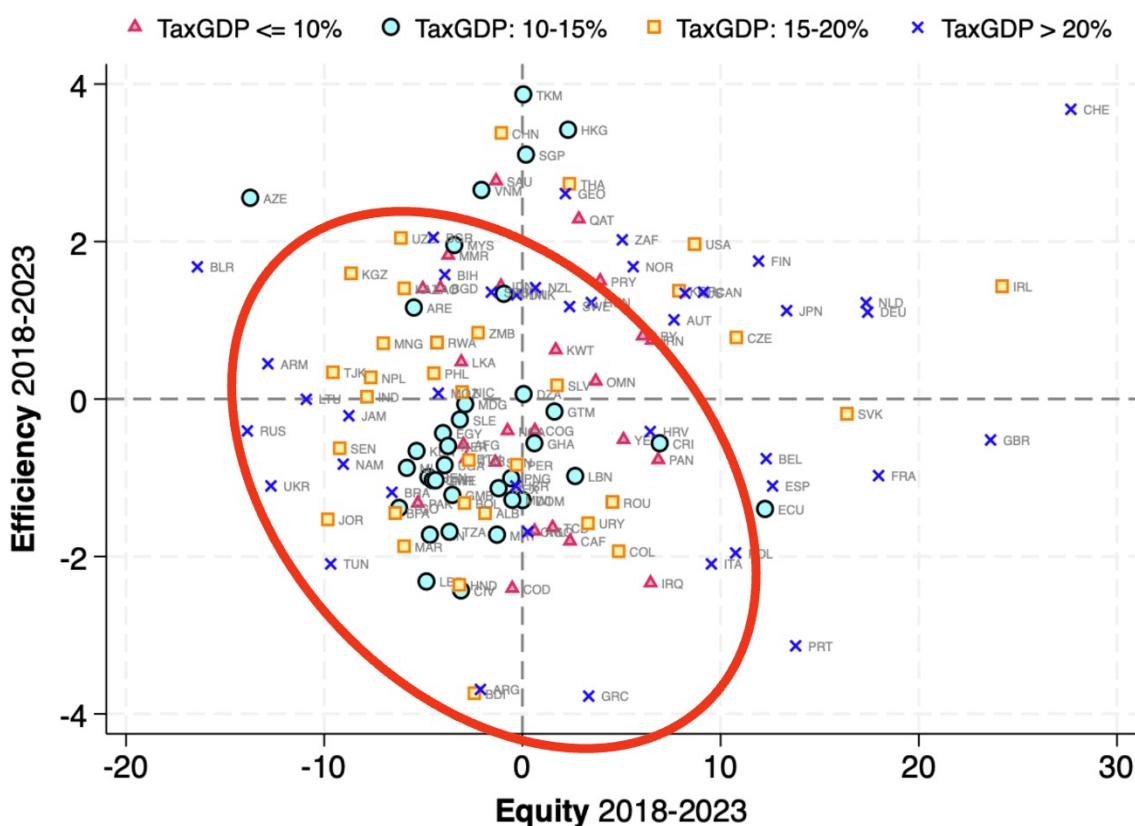
Notes: This figure shows the performance of VAT (blue), CIT (red), and PIT (green) across income groups relative to OECD high-income countries. Reported values are coefficients from the regression $\ln(y_i) = \alpha_0 + \alpha_1 \cdot HIC_Rest_i + \alpha_2 \cdot UMIC_i + \alpha_3 \cdot LMIC_i + \alpha_4 \cdot LIC_i + \epsilon_i$, where y_i denotes the respective efficiency measure. Coefficients below (above) zero indicate lower (higher) efficiency relative to OECD HICs; vertical bars show 95% confidence intervals. Performance measures are averaged over 2019–2023. Parentheses below each group indicate the number of countries. VAT C-efficiency is the ratio of actual VAT collections to the revenue that would result from applying the standard rate to total consumption. A perfectly broad-based VAT with full compliance would yield a ratio near 100%. CIT productivity is the ratio of CIT revenue (as a percent of GDP) to the statutory CIT rate. PIT productivity is the ratio of PIT revenue (as a percent of GDP) to the weighted average PIT rate, defined as the average of the lowest and highest marginal rates weighted by the income thresholds at which they apply (or by the flat rate in single-rate systems). The averages for VAT, CIT, and PIT measures for HIC-OECD are 55, 13, and 29, respectively. *Source:* Own elaboration using USAID’s Collecting Taxes Database.

Figure 6: Relationship Between Tax/GDP and Equity Across Countries



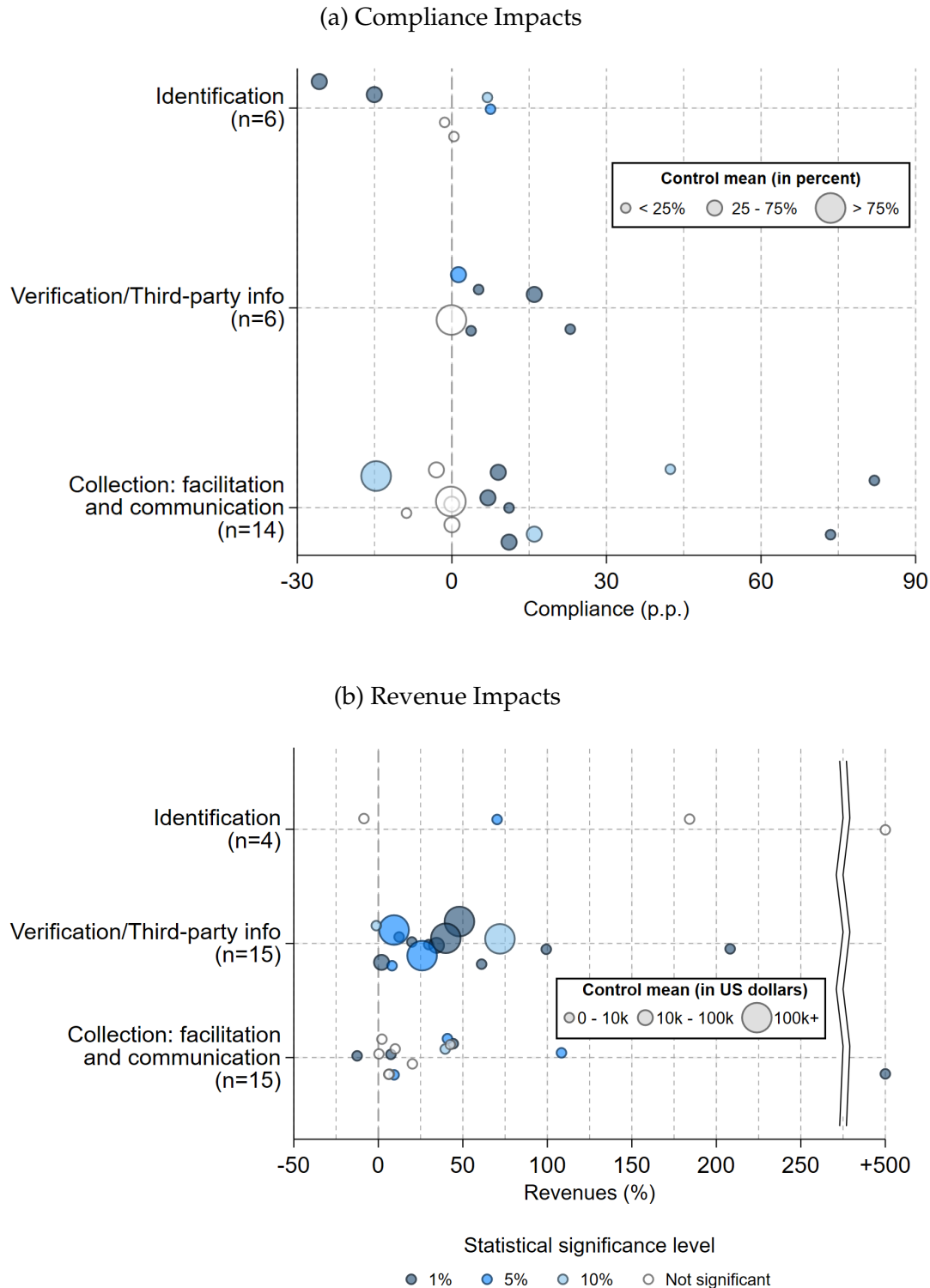
Notes: Tax equity captures the relative redistribution impact of taxes and transfers, calculated as $(\text{Gini pre-tax-and-transfer} - \text{Gini post-tax-and-transfer}) / \text{Gini pre-tax-and-transfer}$. We control for the tax efficiency index from Figure 3a and dummies for small islands and resource-rich countries. Pre-tax-and-transfer corresponds to factor income, adding pensions and subtracting contributions. To maximize coverage, we compute simple averages for each country over 2018-2023. Income groups are distinguished by markers and colors. Sources: Own elaboration using Research School of International Taxation's International Tax Institutions database, World Inequality Database, IMF's World Revenue Longitudinal Database, and World Development Indicators.

Figure 7: Relationship Between Tax/GDP, Efficiency, and Equity Across Countries



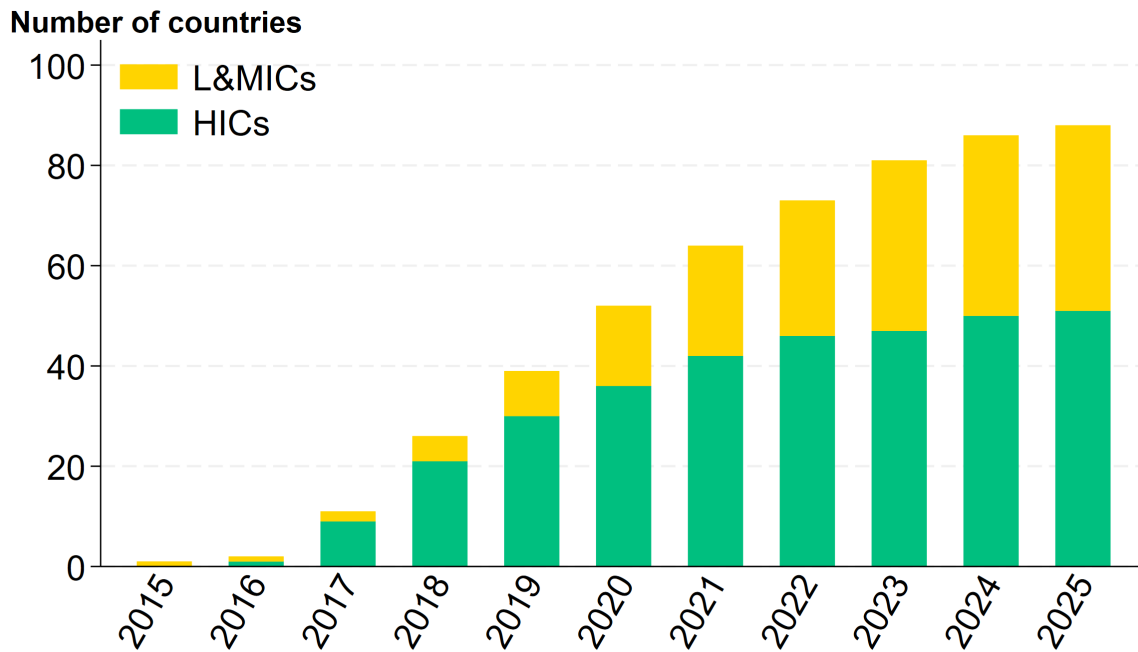
Notes: Tax efficiency is derived from a principal component analysis (PCA) incorporating VAT C-efficiency, CIT productivity, PIT productivity, World Bank Enterprise Surveys indicator on taxes as an obstacle, and CIT rate dispersion across 19 industries. To maximize coverage, we compute simple averages for each country over 2018-2023. Tax equity is defined as in Figure 6. Both efficiency and equity measures are residualized with respect to the tax-to-GDP ratio. Tax-to-GDP groups are distinguished by markers and colors. The sample includes 132 countries with populations above 2.5 million. The red circle shows countries operating far from the fiscal frontier, for which well-designed tax reforms could simultaneously improve efficiency, equity, and revenue. *Source:* Own elaboration using USAID's Collecting Taxes Database, World Bank Enterprise Surveys, Research School of International Taxation's International Tax Institutions database, World Inequality Database, IMF's World Revenue Longitudinal Database, and World Development Indicators.

Figure 8: Impacts of Digital Reforms on Tax Performance



Notes: This figure displays the effect sizes of tax digital reforms from existing studies, all published in academic journals. The y-axis displays the type of interventions considered, followed by the number of effect sizes included for each type (denoted by n). For panel (a), the x-axis displays the change in tax compliance—or the extensive margin of compliance—in percentage points. For panel (b), the x-axis displays changes in revenues in percentages with respect to the control group average. The color of dots is relative to the extent of statistical significance or insignificance. The size of dots is relative to the control mean. Panel (a) includes 26 interventions compiled from 11 studies, and panel (b) includes 34 interventions compiled from 20 studies. *Source:* The full list of academic studies and results compiled by the authors is available in the Online Appendix. This figure builds on figure 5 “Impacts of Tax Interventions” in Okunogbe and Tourek (2024), updating the list of papers included and expanding the range of reported estimates to include nonsignificant results. 32

Figure 9: Beneficial Ownership Registry Adoption



Notes: This figure shows the evolution of Beneficial Ownership Register (BOR) adoption by launch year and income group. HICs are high-income countries, while L&MICs (low- and middle-income countries) include low-income countries (LICs), lower-middle-income countries (LMICs), and upper-middle-income countries (UMICs) as classified by the World Bank. *Source:* Own elaboration based on BOR adoption data from the Open Ownership dataset and World Bank Group official boundaries and population data. For countries without World Bank gross national income per capita or population data, complementary sources –United Nations Population, United Nations Statistics, and country-specific datasets– are used.