TECHNICAL

NOTES & MANUALS

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and Benedict Chu Sheen Tan

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Methodology and Overview of the IMF's World Revenue Longitudinal Database

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This note presents the methodology behind the IMF's World Revenue Longitudinal Database, a comprehensive data set that tracks government revenue trends since the early 1990s. With data for 193 countries, including 190 IMF member countries, the World Revenue Longitudinal Database provides policymakers, researchers, and the public with invaluable insights into the evolution of the level and composition of revenues and tax revenues. It is a unique, consistent, and reliable source for comparing countries around the world, helping to shape policies that support the Sustainable Development Goals, climate action, and economic equity. The note also presents revised estimates for the tax potential for three country income groups. Updated annually, the database and accompanying technical note provide a concise overview of recent revenue developments, data revisions, and methodological improvements, making it an essential resource for understanding revenue mobilization developments at the global level.

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I. Introduction

Taxation plays a key role in state building. How much and how a government taxes matter for development. Taxes are typically the major share of government revenues around the world, but nontax revenue can be important in some countries, because of rent from natural resources, grants, and other sources. Understanding both tax and nontax revenues, as well as their interactions, is therefore fundamental to understanding state capacity and how a state achieves its taxation objectives—for instance, mobilizing revenue, addressing externalities such as climate mitigation, or reducing inequality of income and wealth.

The revised World Revenue Longitudinal Database (WoRLD) was created for analyzing these issues. It is a panel data set for all IMF member countries—except Lichtenstein—with series starting from the early 1990s (1980s for some countries) to 2022. Compared with the previous version of WoRLD—published by the IMF after the Addis Ababa conference on financing for development in 2015—this version relies entirely on IMF data, most of which are available in public IMF staff country reports, such as Article IV reports. It is compiled following the *Government Finance Statistics Manual* (GFSM) methodology, an internationally recognized classification of government fiscal operations. The key strength of WoRLD is that each country's data are thoroughly discussed with country authorities as part of IMF surveillance and lending activities, which are, in turn, discussed and approved by the IMF Executive Board. This provides quality assurance, particularly in countries where international standards on national accounts statistics cannot be implemented easily and consistently over time—especially an issue in countries that are still developing their statistical systems. Because comparisons between low- and high-capacity countries can be useful to draw lessons on tax policy and revenue mobilization, it is crucial that the data are compiled using a common standard.

WoRLD stands out among other revenue data sources for its comprehensiveness of country coverage, time, and revenue categories—particularly tax revenue. Other databases on government revenues, such as the revenue statistics of the Organisation for Economic Co-operation and Development (OECD),[1] the European Union's economic data, and the revenue statistics of the Inter-American Center of Tax administrations, are narrower in country coverage or revenue series and collected through a bottom-up approach, often entailing higher collection costs and longer processing periods. Another database, the United Nations' UNU-WIDER Government Revenue Dataset,[2] is compiled from IMF, OECD, and other regional and country-specific sources, making it challenging to ensure consistency across countries and over time.

This technical note describes the methodology used to compile WoRLD and presents statistical tests to validate the coherence of the data over time, and within and across countries. It also presents comparative revenue and tax indicators regularly used in empirical analysis and tax potential estimates.

1 Available at Global Revenue Statistics Database | OECD (https://www.oecd.org/en/data/datasets/global-revenue-statistics-database.html).

2 Available at UNU-WIDER: GRD—Government Revenue Dataset (https://www.wider.unu.edu/project/grd-government-revenue-dataset).

II. Methodology and Data Coverage

Methodology

The Government Finance Statistics Manual

The GFSM (2014) provides a robust and standardized framework for the classification of government revenues, thereby facilitating the comparability of tax and nontax revenues across countries and time. The main types of government revenue in the GFSM include taxes, social contributions, grants, and other sources such as rent from natural resources and dividends of state-owned enterprises. Taxes are defined as mandatory amounts receivable by government units from institutional units and are considered unrequited because the government does not provide anything directly to the taxpayer in exchange for the payment. Conversely, some mandatory contributions, such as social contributions, are not classified as taxes because they involve an element of exchange under certain conditions.

The coverage, timing, and valuation of revenues in the GFSM 2014 are consistent with those in the 2008 System of National Accounts and OECD Revenue Statistics, but their classification differs. For example, certain tax categories from the Government Finance Statistics (GFS) must be split between two System of National Accounts tax categories, depending on whether they are payable by producers or consumers or whether they derive from current or capital transactions. In addition, in contrast to the GFS, the OECD Revenue Statistics classifies compulsory social contributions as taxes and groups taxes on goods and services and taxes on international trade and transactions in the same category.

Data Compilation

WoRLD is compiled from data submitted by country authorities in the conduct of IMF surveillance, and GFS data.[3] The compilation process follows the GFSM (2014) classification and consists of several steps that allow for harmonizing each country's data sources following the standard individual country template presented in Appendix Table 1.1. In selecting the key tax and nontax series that can be directly attributed to a GFSM category, WoRLD strikes a balance between reporting on all revenue sources—that is, according to the legal or administrative bases of each source—and maximizing coverage and consistency of reporting across countries and over time. As such, the tax revenue series that can be classified according to the GFSM represent over 90 percent of tax revenues.

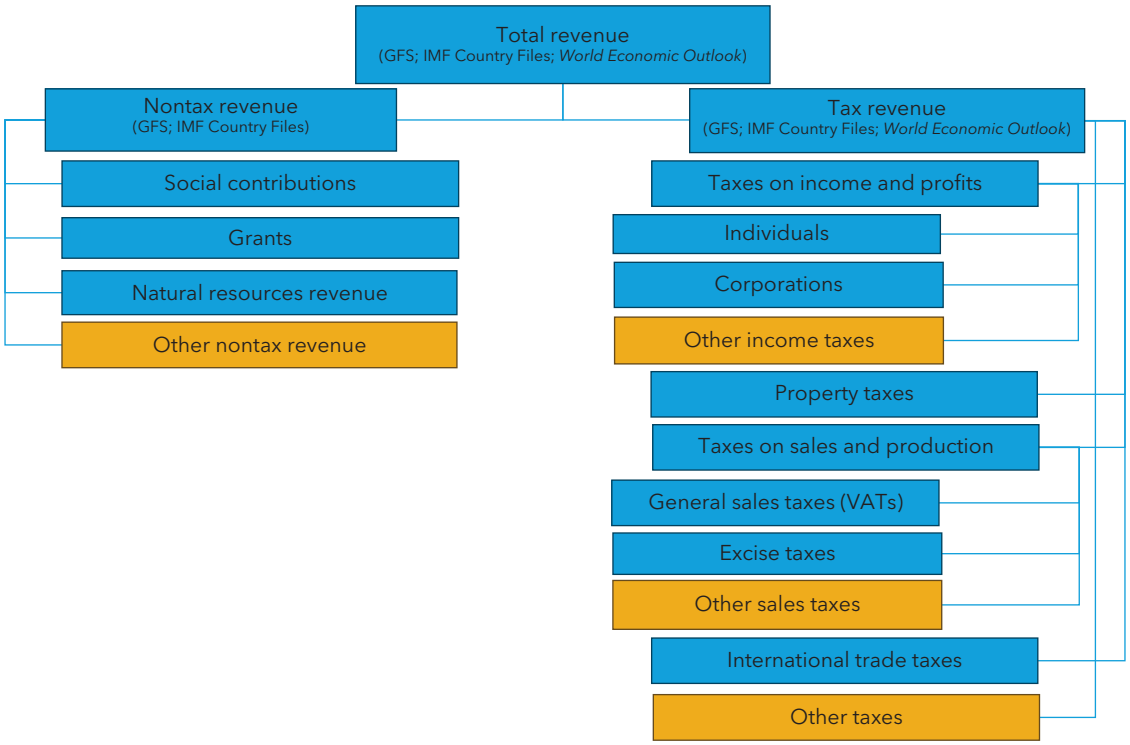
Three steps are used to compile WoRLD's tax and nontax revenue series, as shown in Figure 1 (Appendix 1 provides definitions and more details for certain categories):

- Total revenue and the major components of nontax revenues were identified first and taken from the *World Economic Outlook* or GFS.[4] This step ensures that any tax revenues contained in nontax series were carved out for inclusion in the appropriate tax series. This includes, for instance, profit tax on extractive industries.
- The key components of the tax series were taken from the GFS database for advanced economies (AEs) and IMF country files for other countries. A check was done to ensure that the GFS database and country files are consistent. When reported series showed inconsistencies, such as large breaks over

[3] The previous version of WoRLD was compiled from several sources, including *World Economic Outlook*, GFS, Eurostat, and OECD tax revenue statistics. This has occasionally produced differences between revenue aggregates and components, as well as unexpected swings in certain time series.

[4] GFS data are published and are a direct and voluntary submission from countries to the IMF's Statistics Department. GFS country coverage is relatively low. IMF internal country files are available for all IMF member countries and show each country's monthly or annual fiscal operations. These files are used primarily for surveillance activities and do not show long historical series.

Figure 1. Structure of the World Revenue Longitudinal Database



Source: Authors.

Note: Blue box series are compiled directly; orange box series are consolidated or computed as residuals. GFS = government finance statistics; VATs = value-added taxes.

time, further analysis was conducted using multiple country files going back to 1980 to identify the sources of inconsistencies, such as changes in revenue categorization or introduction of a new tax. Where possible, inconsistencies because of changes in categorization of revenue by country authorities or IMF staff were corrected to match GFS definition.

- The final step cross-checked the consistency of the total sum of tax series identified directly and their respective residuals with total tax revenues—more on consistency tests later.

Accounting Basis

The data are compiled in local currency—as is usually the case of all fiscal data reported by country authorities—and primarily on a cash or modified-cash basis, with the latter being a mix of mostly accrual and some cash-based accounting—for example, refunds of value-added tax credits paid in year *N* are typically posted in year *N*, even if they relate to value-added tax accrued in year *N* − 1; corporate income tax revenue paid as part of filing annual tax returns in year *N* + 1 for year *N* is posted in year *N* + 1. Nominal GDP in local currency from *World Economic Outlook* is used to compute the data in percent of GDP.[5]

Government Unit

WoRLD indicates the level of government for which the data are compiled. Three levels are reported based on data availability: central government, general government, and public sector. Central government is defined as the government at the national level, excluding local collectivities, social security funds, and state-owned

[5] The April 2024 *World Economic Outlook* was used.

enterprises. General government includes social security funds and local governments. The public sector includes both levels of governments and accrued revenue and losses of state-owned enterprises.

General government revenue data are considered the primary data source for WoRLD when available. In emerging market and developing economies (EMDEs), particularly low-income countries, governments frequently report to the IMF central government data only. Few countries in Latin America report only public sector revenue data. For these countries, WoRLD data for nontax revenue also include accrued revenue of state-owned enterprises.

Because the IMF requires macroeconomically relevant data for its surveillance, the level of reporting should not have a material effect on revenue analysis, and especially tax revenue analysis.[6] This means that where subcentral government revenues are important for surveillance, general government revenue would typically be reported to the IMF and included in WoRLD.

Country and Time Coverage

WoRLD provides panel data on revenues composition for 190 IMF member countries, West Bank and Gaza, Macao SAR, and Hong Kong SAR, starting from 1990 to 1980 in some cases. It covers all these countries for total and tax revenues for most years, providing 5,205 observations for tax revenue, over 1990–2022, or 82 percent of the maximum number (Table 1). Data on tax revenue on income and profits are available for 189 countries, whereas data on tax revenue on sales and production are available for 187 countries. Data on property taxes and international-trade tax revenue are available for 120 and 184 countries, respectively.

Table 1 shows significant improvement in data coverage over time, especially from 2000 onward. Coverage is a little patchy before 1995, especially for AEs, because *World Economic Outlook* and GFS did not have good coverage. For the main tax categories—TaxInc, TaxSal, and TaxTra—WoRLD covers about 42 percent of potential observations in the 1990s—the product of the number of countries (193) and the number of years for the period (10). As IMF data improved, including on subcategories, the coverage of the main series increased to more than 81 percent for 2000–09 and 90 percent for 2010–22. Global coverage of the main series exceeds 73 percent of the total number of possible observations during the period 1990–2022.[7]

Appendixes 2 and 3 show that the coverage of series is similar across different income levels and regions. This is slightly above 70 percent of maximum observations for each income-level group and region from 1990 to 2022, particularly for the main tax categories.

Consistency Tests

The compilation methodology used several tests to check consistency within and across countries, and over time. One test assesses whether subcomponents of tax series correspond to the main tax components for each country and year. For instance, tax revenue is equal to the sum of taxes on income and profits (TaxInc), property tax (TaxPro), taxes on sales and production (TaxSal), taxes on international trade (TaxTra), and other tax revenue (TaxOth). A similar test was done for each main tax component. Table 2 presents descriptive statistics of residuals for the main series. The insignificant residuals reflect decimal adjustments in nominal revenue figures in country files.

[6] For instance, the few countries in Latin America that report public revenue would tend to have larger (or smaller) nontax revenue components, depending on whether state-owned enterprises accrue profits or losses, but their tax revenue would not be overstated relative to other countries. Also, subcentral taxes in developing countries tend to be negligible and included mainly in the category property taxes.

[7] Future work on WoRLD will include compiling more data for the 1980s and early 1990s.

Table 1. WoRLD Coverage

	1990-99			2000-09			2010-22			Global (1990-2022)		
	Countries	Observations	Coverage	Countries	Observations	Coverage	Countries	Observations	Coverage	Countries	Observations	Coverage
TotRev	143	1081	56%	188	1768	92%	193	2469	98%	**193**	**5318**	**83%**
TaxRev	136	1023	53%	188	1735	90%	193	2447	98%	**193**	**5205**	**82%**
TaxInc	127	855	44%	177	1617	84%	189	2335	93%	**189**	**4807**	**75%**
TaxIncI	94	607	31%	143	1259	65%	155	1898	76%	**155**	**3764**	**59%**
TaxIncC	99	661	34%	148	1310	68%	162	1974	79%	**162**	**3945**	**62%**
TaxIncCRes	6	47	2%	16	128	7%	26	257	10%	**26**	**432**	**7%**
TaxIncO	62	370	19%	94	743	38%	100	1105	44%	**100**	**2218**	**35%**
TaxPro	64	376	19%	102	855	44%	120	1426	57%	**120**	**2657**	**42%**
TaxSal	122	799	41%	173	1576	82%	187	2284	91%	**187**	**4659**	**73%**
TaxSalG	81	483	25%	133	1141	59%	157	1852	74%	**157**	**3476**	**55%**
TaxSalGI	11	44	2%	29	225	12%	43	467	19%	**43**	**736**	**12%**
TaxSalExc	84	495	26%	130	1146	59%	152	1805	72%	**152**	**3446**	**54%**
TaxSalUnal	61	358	19%	94	799	41%	115	1312	52%	**115**	**2469**	**39%**
TaxTra	119	803	42%	171	1559	81%	184	2259	90%	**184**	**4621**	**73%**
TaxOth	108	695	36%	155	1331	69%	170	1958	78%	**170**	**3984**	**63%**
SocialSec	80	489	25%	116	1042	54%	124	1532	61%	**124**	**3063**	**48%**
Grants	109	749	39%	166	1501	78%	173	2149	86%	**173**	**4399**	**69%**
RevOth	136	933	48%	187	1725	89%	193	2404	96%	**193**	**5062**	**79%**
NonTaxRes	27	190	10%	49	412	21%	60	718	29%	**60**	**1320**	**21%**
NonTaxOth	136	932	48%	187	1725	89%	193	2401	96%	**193**	**5058**	**79%**

Source: Authors, based on WoRLD (2024).

Table 2. Descriptive Statistics of the Residuals
(Percent of GDP)

Consistency Check Residuals	Mean	Min	Max
TaxInc	−1.64E-09	−7.60E-06	6.92E-06
TaxSal	2.36E-11	−1.14E-08	1.46E-07
TaxRev	−1.24E-09	−5.64E-05	2.58E-05
TotRev	2.26E-10	−9.26E-07	1.17E-06

Source: Authors, based on WoRLD (2024).

Note: Residuals are due to decimal adjustments in nominal figures taken from various IMF data sources.

Additional tests were undertaken on the volatility and spikes in data series, and where necessary, corrective actions were taken, in collaboration with the IMF country teams and as needed, country authorities. The key tests were the following:

- Volatility in total revenue because of volatility in nontax natural resources revenues. This is the case, for instance, for hydrocarbon producers, such as Algeria, Azerbaijan, Brunei Darussalam, Iraq, Kuwait, Qatar, Saudi Arabia, United Arab Emirates, and Yemen. In most cases, there was no need to correct the

classification of the data, because they were properly recorded. However, in a few cases, revenue from profit sharing was included in tax revenue—for example, the United Arab Emirates accounted for profit sharing under TaxSal until 2014 and TaxInc starting from 2015. Following GFS definitions, revenue from profit-sharing contracts is recorded as nontax natural resources revenue (NonTaxRes). These corrections were made where data on the composition of natural resources revenues were available. Future corrections are also possible if additional historical data become available. An advantage of this process is to flag the classification issue to the authorities and IMF country teams and encourage them to correct it in future reporting of fiscal data.

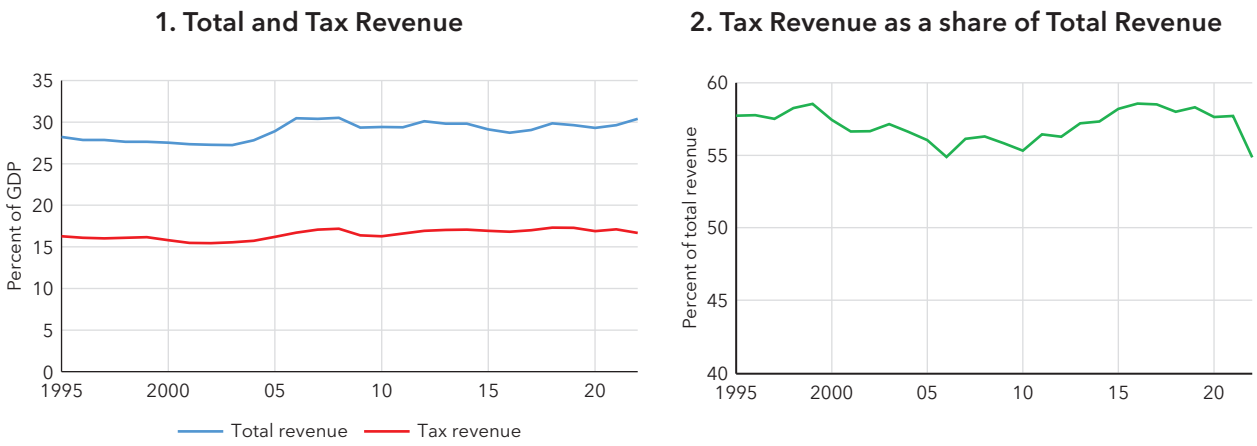
- Spikes because of grants, including those attributed to the IMF Heavily Indebted Poor Country completion point, and where the country records such grants on an accrual basis—for example, Guinea (2012), Mali (2006), Niger (2006), and São Tomé and Príncipe (2007). Similarly, in several small islands, including Kiribati, Micronesia, and Nauru, the size and volatility of total revenue are driven by large and volatile grants, fishing, or mining receipts, classified under other nontax revenue (NontaxOth).
- Sustained and successful tax reforms could also result in a large increase in tax revenue as this was the case in Georgia, where tax revenue (TaxRev) increased from 5.7 percent of GDP in 1995 to 23.7 percent of GDP in 2022, and Kosovo since 2000—the earliest available year.
- Where fiscal year changes occurred and monthly data were available, the revenue variables were reconstructed based on the latest fiscal year. One exception is Qatar, where the fiscal year changed from April–March to January–December in 2015, with the result that the 9-month data from April to December 2015 were retained as the annual data for 2015. This avoids double-counting revenue across 2014 and 2015 but underestimates 2015 revenue.

III. Trends in Government Revenues

The Size of Government Revenues

On average, global government revenue as a share of GDP stood at 30 percent in 2022, an increase of roughly 2.5 percentage points relative to 1995 (Figure 2, panel 1). Tax revenues account for about 57 percent of total government revenue over the period 1995–2022 (Figure 2, panel 2). In other words, a significant share of government revenue comes from nontax sources, which includes economic rent from nonrenewable and renewable natural resources (oil and gas, mining, forestry, fishing), grants, social security contributions (SSCs), and numerous fees and other levies. The composition of government revenues (not shown in Figure 2) varies across countries because of these differences in the composition of nontax revenues (more on this later) and their relative importance. Clearly, nontax revenues should be an integral part of the analysis of revenue and fiscal issues, not only because of their size but also because of their interactions with tax revenues—because they can reinforce or weaken tax revenues, and therefore the credibility and accountability of the state to tax and spend, with implications for economic growth.

Figure 2. Global Total and Tax Revenue Development



Source: Authors, based on WoRLD (2024).

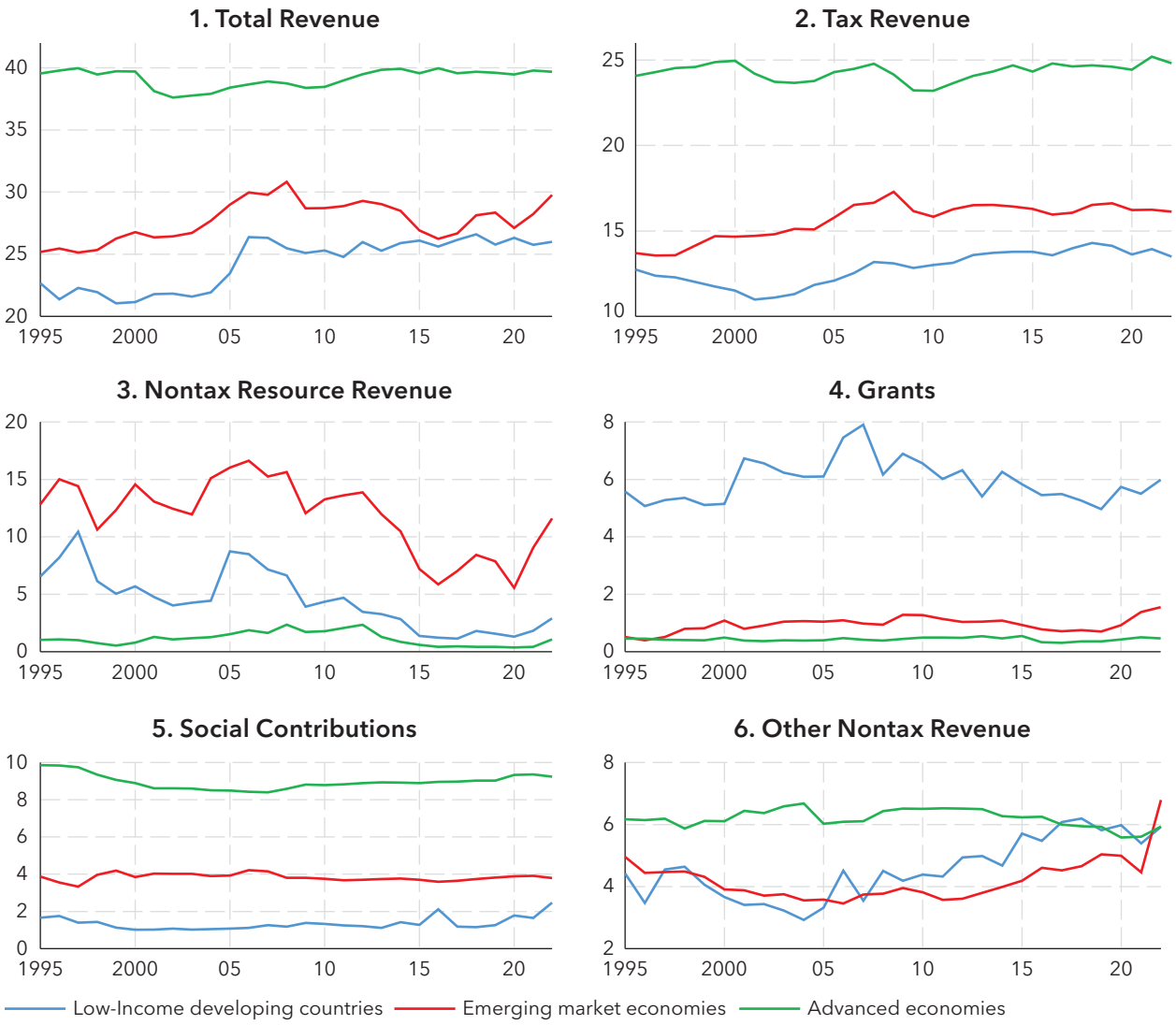
Note: Figures are unweighted averages across countries. 1995 was selected as the start year to have stable country coverage over the period. The data for 2022 do not include all countries because of data availability at the time of compilation. The next update will include data up to 2024.

Figure 3 shows the evolution of government revenue in low-income developing countries (LIDCs), emerging market economies (EMEs), and AEs.[8] Total revenues are just below 40 percent of GDP in AEs, and this has been stable since the mid-1990s. In contrast, in EMEs and LIDCs, total revenue as a share of GDP increased by roughly 5 percentage points and stood at about 29 and 25 percent in 2022, respectively. Most of this increase took place in the first decade of this century.

Tax revenues (excluding SSCs) are the main source of budgetary funds in all groups of countries. They form nearly two-thirds of revenues in AEs and slightly over 50 percent in both EMEs and LIDCs. These shares have remained relatively constant since 1995.

[8] Countries' income classification follows the IMF *World Economic Outlook* classification (https://www.imf.org/en/Publications/WEO/weo-database/2024/October/groups-and-aggregates).

Figure 3. Evolution of Revenue, by Type and Income Level
(Percent of GDP)



Source: Authors, based on WoRLD (2024).

Note: Figures are unweighted averages across countries. 1995 was selected as the start year to have stable country coverage over the period. The data for 2022 do not include all countries because of data availability at the time of compilation. The next update will include data up to 2024. Other nontax revenue includes other revenues not classified elsewhere in tax revenue, grants, social contributions, and nontax resource revenue. It was not always possible to identify the source of such revenue, but they may be important in countries rich in natural resources—for example, royalties, dividends, and profit shares. These countries include Guinea, Mozambique, United Arab Emirates, and Uzbekistan.

There are substantial differences in the composition of nontax revenues across country groups. For AEs, SSCs tend to be significant, raising about 9 percent of GDP. For EMEs, natural resources revenues and other (nonclassified) nontax revenues are the most important components. For LIDCs, grants and other (nonclassified) nontax revenues have the highest shares in percent of GDP. The interaction between tax and nontax revenues has occupied an important part of the empirical literature. In AEs, this literature has focused on issues such as labor market incentives and equity implication of high average and marginal SSC rates (see

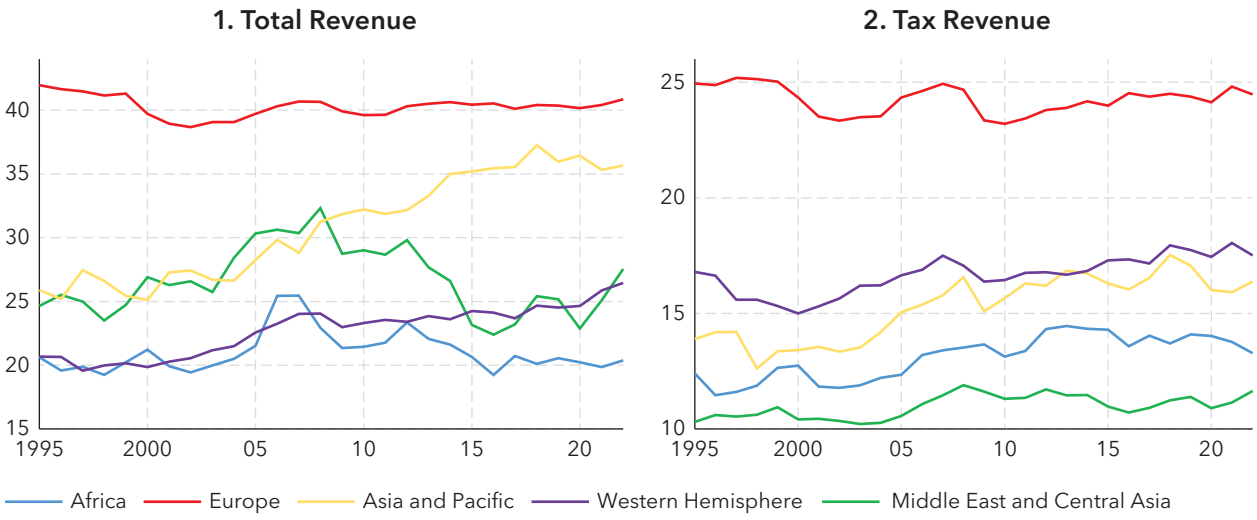
Zotti and others 2020; Steiner and Wrohlich 2005), whereas in EMDEs, the linkages between tax and natural resources revenues and between tax and grant revenues have been investigated (see Thomas and Trevino 2013; Crivelli and Gupta 2014; Besley and Persson 2014; Clist and Morrissey 2011). Future research could pay more attention to the linkages between SSCs and tax revenues in EMDEs.

Revenue from nonrenewable natural resources, primarily oil and gas, has declined substantially over the years in EMEs, with a slight rebound after the COVID-19 pandemic (Figure 3, panel 3).[9]

Geographically, Europe raises the highest amount of government revenue on average in percent of GDP (Figure 4, panel 1), Asia and the Pacific region comes second, and the Western Hemisphere region is third.[10] The highest increase in revenue since the mid-1990s took place in Asia and the Pacific, and a substantial part of this increase came from tax revenue (Figure 4, panel 2). In contrast, little of the increase in revenue in the Western Hemisphere region came from taxation. The Middle East and Central Asia region has the lowest tax revenue-to-GDP among the five regions, and its total revenue exhibits the highest volatility because of the importance of natural resources revenues.

Figure 5 shows progress in domestic revenue mobilization since the mid-1990s. AEs have generally stayed close to the 45-degree line, implying stable or mild increases in tax-to-GDP ratios. EMEs and LIDCs show mixed results.

Figure 4. Total and Tax Revenue, by Region
(Percent of GDP)



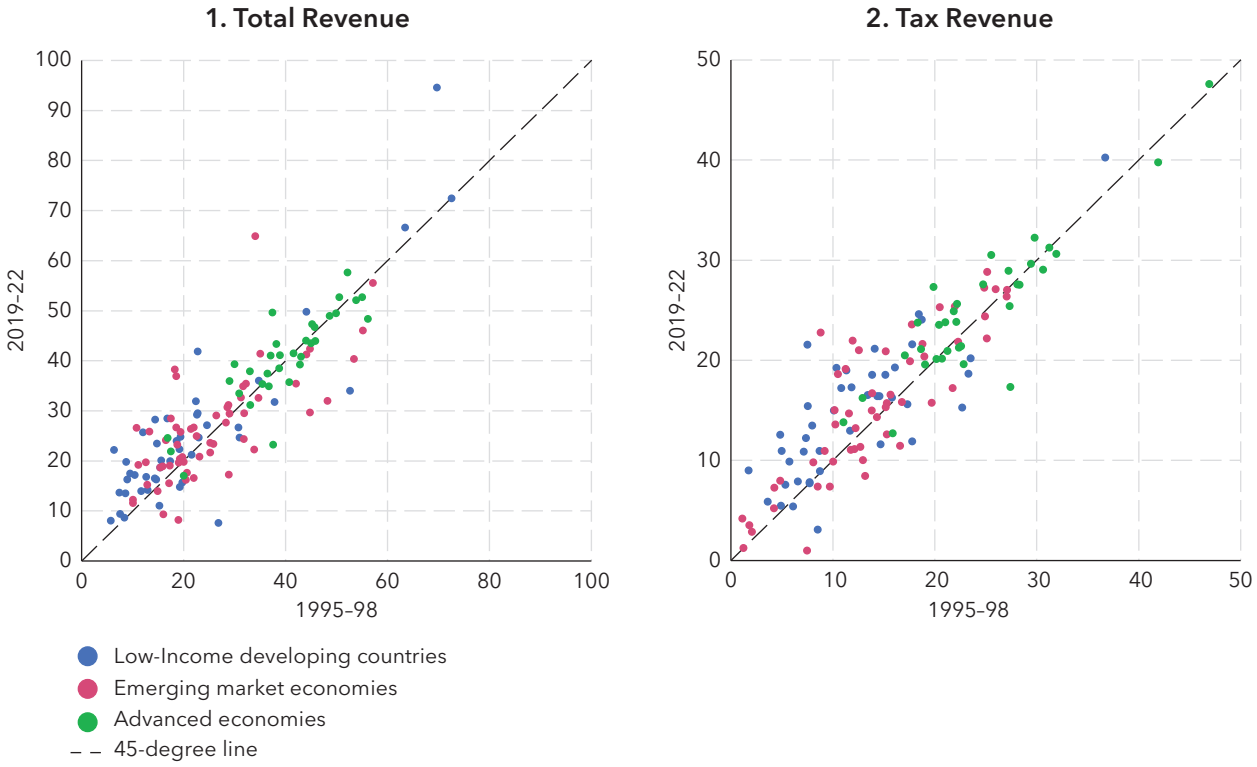
Source: Authors, based on WoRLD (2024).

Note: Figures are unweighted averages across countries. 1995 was selected as the start year to have stable country coverage over the period. The data for 2022 do not include all countries because of data availability at the time of compilation. The next update will include data up to 2024.

[9] The category "other nontax revenue" may contain revenues that should be classified in the other nontax categories. It was not always possible to identify these sources directly. This could be important in some countries for the "nontax resource revenue" category.

[10] The regional classification of countries follows the IMF *Regional Economic Outlook*'s structure (https://www.imf.org/en/Publications/REO).

Figure 5. Change in Total and Tax Revenue, by Income Level
(Mean in percent of GDP)



Source: Authors, based on WoRLD (2024).

Note: Figures are unweighted averages across countries. 1995 was selected as the start year to have stable country coverage over the period. The data for 2022 do not include all countries because of data availability at the time of compilation. The next update will include data up to 2024.

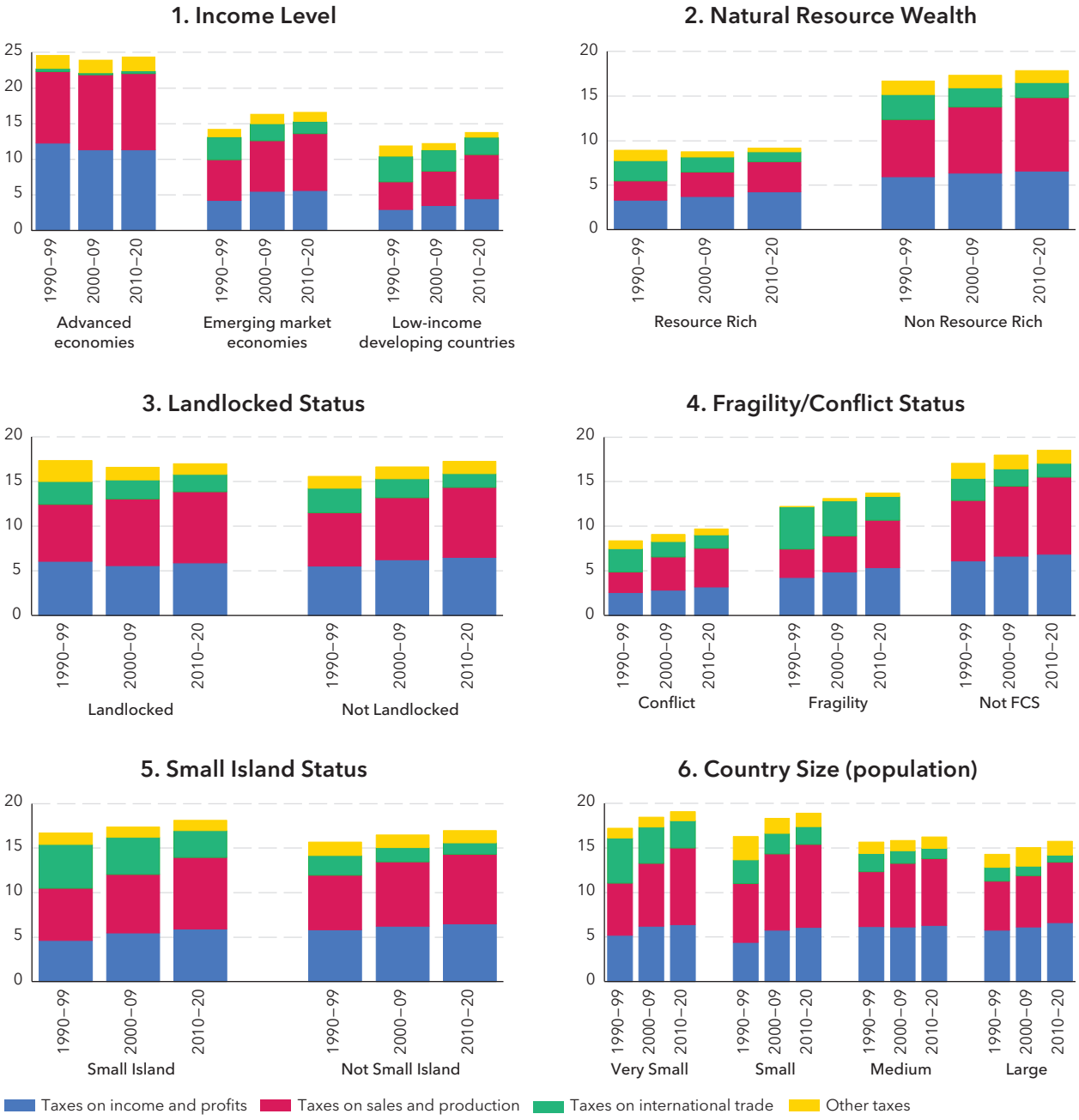
The Composition of Tax Revenues

Income Level

Over the past two decades, tax revenue structures have been relatively stable in AEs on average, with taxes on income and profits consistently accounting for more than 45 percent of total tax revenue (Figure 7, panel 1).[11] In contrast, EMEs and LIDCs have seen a gradual increase in the contribution of taxes on income and profits to tax revenue. That is consistent with the findings of Abdel-Kader and De Mooij (2020) that countries' tax structures change with their income level. It is also interesting to note that taxes on international trade still account for a significant share of tax revenues in LIDCs at about 19 percent, despite a general decline across all income groups. In addition, in both EMEs and LIDCs, there is a notable increase in the contribution of taxes on sales and production since the 1990s, with their share reaching about 45 percent of tax revenue in the past decade. This rise has more than offset the observed decline in taxes on international trade, increasing tax revenue in both groups and indicating a shift in the tax revenue structure toward domestic sources. That mainly results from the global efforts toward trade liberalization, which was followed by a reduction of distortive tariffs in favor of more efficient consumption taxes (Benitez and others 2023; Mansour 2014).

[11] Refer to panel 1 of Figure 6 for details about the revenue level by main tax components.

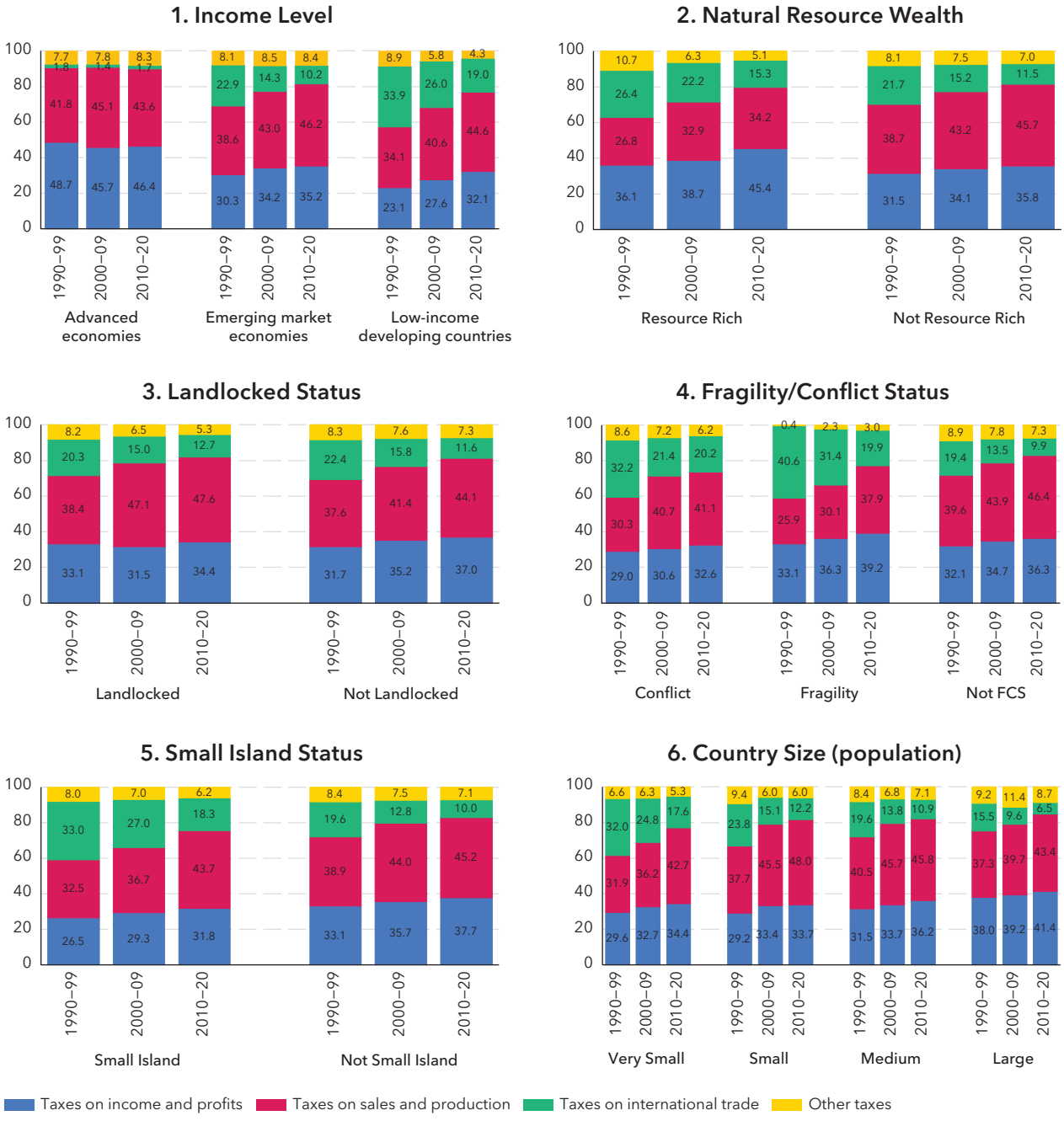
Figure 6. Tax Revenue Level
(Percent of GDP)



Source: Authors, based on WoRLD (2024).

Note: Income Level (panel 1) and Fragility/Conflict Status (panel 4) follow the IMF classification. Landlocked (panel 3) and small island status (Panel 6) follow the UN classification. Country size (panel 5) is built from total population using the average number of individuals per country from 2010 onward as follows: less than 1.5 million = very small, between 1.5 and 4.99 million = small, between 5 million and 49.99 million = medium, and 50 million and higher = large.

Figure 7. Tax Revenue Composition
(Percent of tax revenue)



Source: Authors, based on WoRLD (2024).

Note: Income level (panel 1) and Fragility/Conflict Status (panel 4) follow the IMF classification. Landlocked (panel 3) and small island status (panel 6) follow the UN classification. Country size (panel 5) is built from total population using the average number of individuals per country from 2010 onward as follows: less than 1.5 million = very small, between 1.5 and 4.99 million = small, between 5 million and 49.99 million = medium, and 50 million and higher = large.

Country Size

The contribution of taxes on income and profits is positively correlated with country size, whereas that on international trade is negatively correlated with size (Figure 7, panel 6).[12] Indeed, population size and growth rate may negatively affect tax effort, because larger and rapidly growing populations can strain tax systems, making it challenging to effectively broaden the tax bases (Bahl 2003; Bird, Martinez-Vazquez, and Torgler 2008). Despite a decreasing trend over the years, taxes on international trade still represent a considerable share, about 18 percent, in very small countries.[13] This is consistent with the fact that 35 of the 39 small island countries are classified as very small. In the past decade, taxes on sales and production have contributed the most to tax revenue, with small- and medium-sized countries displaying the largest shares, respectively, 48 and 45.8 percent of tax revenue.

Small Island Countries

In both small and non–small islands, taxes on sales and production represent the highest component of tax revenue, accounting for more than 43 percent of tax revenue (Figure 7, panel 5).[14] However, small islands have a higher contribution from taxes on international trade, at about 18.3 percent of tax revenue, compared with 10.0 percent in non–small island countries. As a result, indirect taxes account for a larger share of tax revenues in smaller islands relative to others (Sy and others 2022). In addition, the contribution of taxes on income and profits in tax revenues has increased over time in both groups from 26.5 to 31.8 percent in small islands and from 33.1 to 37.7 percent in non–small island countries.

Landlocked Countries

Landlocked and nonlandlocked countries show similar patterns in their tax revenue structure, but differences emerge in their evolution.[15] For landlocked countries, the contribution of taxes on income and profits to tax revenue increased by only 1.3 percentage points from the 1990s to the 2010s, whereas the share of taxes on sales and production increased by 9.2 percentage points (Figure 7, panel 3). In contrast, in nonlandlocked countries, the contribution of taxes on sales and production in tax revenue increased by 6.5 percentage points, whereas the share of taxes on income and profits increased by 5.3 percentage points. Moreover, taxes on international trade represent a higher share of tax revenue in landlocked countries (12.7 percent) relative to their nonlandlocked peers—perhaps reflecting, at least in part, the effect of land transportation on the tax base of indirect taxes.

Endowment in Natural Resources

In resource-rich countries, there has been a decrease in tax revenue but an increase in the contribution of taxes on income and profits in tax revenue from 36.1 percent in the 1990s to 45.4 percent in the 2010s (Figure 6, panel 2; Figure 7, panel 2). Non-resource-rich countries, however, have experienced an increase in tax revenue, with growing shares of taxes on income and profit and taxes on sales and production. Between the 1990s and the 2010s, the share of taxes on income and profits in total tax revenue rose by 4.3 percentage points, whereas the share of taxes on sales and production increased by 7 percentage points. That is

[12] Population is considered the most appropriate measure of country size because of its information content, ease of conceptualization, and its reflection of the labor force, human resource constraints, and the potential consumer base, as argued by Crowards (2002) and the Commonwealth Secretariat (2007, p. 22). The construction of the different country sizes is based on Brito (2015), Craigwell and Thomas (2010), Crowards (2002), and Commonwealth Secretariat (2007) and using the average number of individuals per country from 2010 onward as follows: less than 1.5 million = very small, between 1.5 and 4.99 million = small, between 5 million and 49.99 million = medium, and higher than 50 million = large.

[13] Refer to panel 6 of Figure 6 for details about the revenue level by main tax components.

[14] Refer to panel 5 of Figure 6 for details about the revenue level by main tax components.

[15] Refer to panel 3 of Figure 6 for details about the revenue level by main tax components.

consistent with the idea that resource-rich countries tend to substitute resource revenue for non-resource revenue, because the former increases (Benitez and others 2023; Crivelli and Gupta 2014) and has a higher contribution of direct taxes in tax revenue (Mansour 2014).

Fragility and Conflict

Panel 4 of Figure 6 shows that both the level and increase in tax revenue in fragile and conflict-affected states (FCSs) lag non-FCS, suggesting a negative correlation between fragility and conflict and domestic revenue mobilization. Several studies have found that tax revenue mobilization in FCSs has been significantly weaker relative to other countries for several reasons, including their reliance on nontax revenues from natural resources or foreign aid, lower economic growth, instability, governance, and institutional capacity issues (Baer and others 2021; Akitoby, Honda, and Primus 2020; Mansour and Schneider 2019). In addition, despite a decreasing contribution, taxes on international trade still account for about 20 percent of tax revenue in FCSs (Figure 7, panel 4). Taxes on income and profits represent the highest share of tax revenue in fragile countries. In contrast, taxes on sales and production constitute the major tax revenue component in conflict-affected and non-FCS countries.

IV. Policy Implication

One application of WoRLD, given its wide coverage and consistent measure of tax and nontax revenue, which follows the GFSM, is to serve as a reliable input to estimate countries' tax revenue potential. Increasingly common in the literature, the tax potential measures how much a country can raise in tax revenue, if it wanted, given its economic and institutional framework—based on a tax frontier obtained from a cross-country regression analysis on a large number of countries over a long period. By comparing actual and potential revenue, one can compute the "tax gap"—that is, how much additional revenue can be raised by closing the gap vis-à-vis the frontier, through policy and compliance reforms. This literature is widely available and includes statistical codes for various types of models (see, for instance, Belotti and others 2013; Kumbhakar, Wang, and Horncastle 2015). One can use different measures of revenues and different choices of control variables to infer revenue potential. Here, we follow Benitez and others (2023), focusing on tax revenue following definitions in the GFSM and excluding nontax revenue—social contributions and natural resource revenues other than the corporate income tax, which can be very important.

The results are shown in Table 3. As expected, the distance between the average actual tax-to-GDP ratio and the average tax frontier declines as per capita income increases. Also, both LIDCs and EMEs have room to generate more tax revenue by improving their institutional framework. An important aspect of the results is the difference in the estimated potential not only across the country groups shown in the following table but also within groups. For example, the average tax potential of the third quartile in the EMEs group is 1.8 times the average of the first quartile—1.65 for low-income countries and 1.4 for AEs.

Table 3. Tax Potential Estimates Using WoRLD
(Percent of GDP)

	Actual Tax/GDP	Tax Potential	Tax Gap	Tax Gap with Institutional Variables[1]
AEs	24.8	28.7	3.9	
EMEs	16.6	23.3	6.7	1.6
LIDCs	11.9	19.0	7.1	2.7

Source: Authors' estimates using WoRLD (2024).

Note: AEs: advanced economies; EMEs: emerging market economies; LIDCs: low-income developing countries.

[1] The tax gap with institutional variables is obtained using a separate econometric specification where actual values for LIDCs are replaced by values for EMEs and actual values for EMEs are replaced by values for AEs.

Compared with previous results obtained in Benitez and others (2023), shown in Table 4, these results are higher for all groups, reflecting primarily a more consistent measurement of the tax variable along the GFSM classification—in particular, a better delineation of tax and nontax revenue from natural resources. More generally, the literature has highlighted the sensitivity of the results to the choice of the specification of the regression model, including the choice of control variables and the econometric approach (see, for instance, Badunenko and Kumbhakar 2016; McNabb, Danquah, and Tagem 2021; Van Nguyen and others 2021). One direction of future research is to explore further methodological refinements, models, and specifications and test how they impact the results.

Table 4. Tax Potential Estimates in Benitez and Others (2023)
(Percent of GDP)

	Actual Tax/GDP	Tax Potential	Tax Gap	Tax Gap with Institutional Variables[1]
AEs	24.5	27.6	3.1	
EMEs	17.5	22.7	5.3	
LIDCs	13.2	17.5	4.3	3.0

Sources: Authors' estimates using WoRLD (2024); and Benitez and others (2023).

Note: AEs: advanced economies; EMEs: emerging market economies; LIDCs: low-income developing countries.

[1] The tax gap with institutional variables is obtained using a different econometric specification where actual values for LIDCs are replaced by values for EMEs.

Note that the results in Benitez and others (2023) have been corrected for an unintentional coding error related to the derivation of the tax potential. Specifically, the tax potential in Table 4 is derived as *Actual Taxes / Exp*$^{-u}$, where *u* is the so-called tax inefficiency obtained from the regression model using the SFPANEL command in STATA. This is the correct way of deriving the potential when the variables in the regression are expressed in percent of GDP in log form. In Benitez and others (2023), the tax potential was obtained as *Actual Taxes / (1 − u)*.

This analysis highlights that the estimates for tax potential using the revised WoRLD are larger than previously reported estimates and that the results are sensitive to data. The literature also reports that results from the regression models used vary significantly, depending on the choice of the econometric specification and control variables. Tax potential figures should thus be used with caution and as broad policy indicators for long-term revenue mobilization strategies, rather than as policy targets.

V. Conclusion

WoRLD provides a comprehensive and valuable source for analyzing government revenue trends and composition, for the study of revenue mobilization, and other issues related to how governments fund their budgets and the implications for development. This unique panel data set encompasses tax and nontax revenues dating back to the early 1990s (1980s for some countries). The strength of WoRLD stems from its reliance on IMF internal data, validated through discussions with countries' authorities, ensuring a high level of quality and consistency across countries and time, and reflecting GFS classification. WoRLD thus serves as an invaluable tool for policymakers and researchers seeking to assess revenue and tax policies, understand their dynamics, and conduct comparative analysis.

WoRLD will be updated annually to incorporate the most recent data, emphasizing consistency and accuracy in line with the established methodology described in this note. These updates will include revisions for the latest two years of data to reflect any changes reported by countries to the IMF. In addition, enhancements in methodology, data coverage (for 1980s and early 1990s), and data validation processes will further improve the database's reliability and quality. This may include better coverage of historical data when improved information becomes available, such as further disaggregation of natural resource revenues from nontax revenues. This continuous monitoring and management will ensure that WoRLD remains a leading source for analytical work on fiscal issues.

APPENDIX 1. Variables' Definition and Database Structure

Total Revenue (TotRev)

TotRev refers to the government's total revenue, including tax revenue, social contributions, grants, and other revenue, including those from state-owned enterprises, such as dividends or interest, profit-sharing contracts in oil and gas, and service contracts in oil and gas and mining.

Tax Revenue (TaxRev)

TaxRev refers to the total taxes paid to the government, including taxes on profits of companies operating in the oil and gas and mining sectors. TaxRev excludes revenue from profit-sharing agreements, other revenue from natural resources (royalties, dividends, and so on), and hydrocarbon export revenue.

Taxes on Income and Profits (TaxInc)

TaxInc consists of taxes assessed on actual or presumed incomes and profits of natural and legal persons. TaxInc includes other taxes on income and profits that are not classified as taxes on individuals or corporations, such as withholding taxes on payments to residents and nonresidents, taxes on capital gains, taxes on dividends and interests, and taxes on payroll and workforce (other than social security contributions).

Taxes on Income and Profits of Individuals (TaxIncI)

TaxIncI consists of personal income taxes, including those deducted by employers (pay-as-you-earn taxes) and income taxes on (unincorporated) self-employed and small businesses. It excludes payroll taxes when these are separately identified, as well as social security contributions.

Taxes on Income and Profits of Corporations (TaxIncC)

TaxIncC consists of taxes assessed on corporations' total incomes and profits, including extractive industries, but excludes revenue from profit-sharing agreements or equivalent payments, royalties, farming revenue, or turnover/sales in place of the corporate income tax.

Taxes on Income and Profits of Extractive Industries (TaxIncCRes)

TaxIncCRes consists of taxes assessed on extractive industries' total incomes and profits—that is, TaxIncC of extractive companies.

Other Taxes on Income and Profit (TaxIncO)

TaxIncO refers to other income and profit taxes not allocable to TaxIncI or TaxIncC, including taxes on capital gains, withholding taxes, and other additional taxes when identified, such as payroll taxes. It also includes taxes on dividends and interests when those are not clearly linked to personal income tax.

Tax on Property (TaxPro)

TaxPro refers to taxes payable on the use, ownership, or transfer of wealth following the Government Finance Statistics Manual (GFSM [2014]). It consists primarily of real property taxes, wealth, and inheritance taxes.

Taxes on Sales and Production (TaxSal)

TaxSal refers to taxes payable on the value of production, sale, transfer, leasing, or delivery of goods and services or their use for own consumption or capital formation (GFSM 2014).

General Sales Tax (TaxSalG)

TaxSalG consists of value-added taxes (VAT) and sales taxes—such as turnover taxes. For VAT revenue, when details about refunds are available, net VAT revenue is reported. However, for some countries, VAT revenue is reported on a gross basis without information on the refunds. This could lead to overestimated revenue; developing countries tend to exempt high-value items from VAT, precisely to prevent accumulation of refunds—for example, imports of machinery and equipment and imports of construction material.

General Sales Taxes Collected on Imports (TaxSalGI)

TaxSalGI consists of VAT and sales taxes collected on imports. In some cases where net VAT is reported in TaxSal and VAT on imports is only available on a gross basis, TaxSalGI is considered missing for consistency.[16]

Type of General Sales Tax (SalGType)

SalGType is a categorical variable specifying the nature of general sales taxes, as follows:

- 0 = sales taxes,
- 1 = VAT,
- 2 = sales taxes + VAT.

Excise Taxes (TaxSalExc)

TaxSalExc refers to taxes levied as a product-specific tax on a predefined limited range of goods, including nonessential or luxury goods, alcoholic beverages, tobacco, energy (mainly fuel), motor vehicles,[17] and so on.

TaxSalExc in the updated WoRLD includes the carbon tax and pollution tax (in few countries), which fall under environmental taxes following the GFSM (2014).

Unallocated Taxes on Sales and Production (TaxSalUnal)

TaxSalUnal refers to taxes on sales and production not classified elsewhere in general sales taxes or excises. It includes taxes on the use of goods and permission to use goods, taxes on service delivery, taxes on betting/lottery, and taxes on insurance. TaxSalUnal excludes stamp duties that are not directly related to specifically defined goods/services.[18]

Taxes on International Trade (TaxTra)

TaxTra refers to taxes that become payable when goods cross national borders of the economic territory or when transactions in services exchange between residents and nonresidents. It is mainly constituted by custom duties and export taxes, excluding hydrocarbon export revenue classified under nontax natural resources revenue. It also excludes VAT and excises on imports classified under TaxSalG and TaxSalExc, respectively. TaxTra excludes specific taxes related to tourism and travel that have been reclassified under TaxOth.

In some cases where income tax from business activity is collected at customs as a withholding for taxes on income and is available, it is excluded from taxes on international trade and included in taxes on income and profits—because this is netted out of such taxes.

[16] The main idea is to keep the same basis (gross or net) for both total VAT and VAT on imports.

[17] It excludes vehicles' registration fees when those can be identified directly.

[18] The GFSM (2014) states that stamp duties not attributable to specific goods/services should be classified as other taxes.

Taxes Not Elsewhere Classified (TaxOth)

TaxOth refers to taxes not classified elsewhere in taxes on income and profit, taxes on property, taxes on sales and production, or taxes on international trade. It includes stamp duties when not linked to specific products/services, tourism and travel taxes, and local government taxes when presented in aggregate separately.

Social Contributions (SocialCon)

SocialCon consists of payments by employers, employees, or self-employed individuals into social insurance programs aiming to guarantee social advantages for the contributors, their workers, or the wider community.

SocialCon excludes taxes on payroll and workforce that are classified under TaxIncO.

Grants (Grants)

Grants refer to nontax revenue received from government units, other governments, and international organizations or entities.

Other Revenue (RevOth)

RevOth refers to revenue not classified elsewhere in tax revenue, grants, or social contributions. It includes nontax resources revenue and other nontax revenue.

Nontax Natural Resources Revenue (NonTaxRes)

NonTaxRes consists of revenue from extractive activities (mining, oil, and gas), including revenue from production-sharing agreements, royalties, dividends, and hydrocarbon exports.

In some cases, including the Kyrgyz Republic and Mauritania, the Kumtor tax and the National Industrial and Mining Company single tax, respectively, that are paid in replacement of all other contributions and apply as a share of production/sales, are considered as royalties in WoRLD and included in NonTaxRes instead of TaxRev.

Other Nontax Revenue (NonTaxOth)

NonTaxOth includes all revenue, excluding taxes, social contributions, grants, and nontax natural resources revenue. It includes revenue from property income, interests, dividends, sales of goods and services, fines, penalties, forfeits, and other miscellaneous types of revenue. It also includes vehicle registration fees when those are identified separately.

Appendix Table 1.1. List of Variables Included in WoRLD

Variable	Description
TotRev	Total revenue
TaxRev	I. Tax revenue
TaxInc	I. 1. Taxes on income and profit
TaxIncI	I. 1. a. Taxes on income and profit of individuals
TaxIncC	I. 1. b. Taxes on income and profits of corporations
TaxIncCRes	I. 1. b. i. Taxes on income and profits of extractive industries
TaxIncO	I. 1. c. Other taxes on income and profit
TaxPro	I. 2. Taxes on property
TaxSal	I. 3. Taxes on sales and production
TaxSalG	I. 3. a. General sales taxes
TaxSalGI	I. 3. a. i. General sales taxes collected on imports
SalGType	Types of general sales tax (VAT, turnover tax, or a combination of both)
TaxSalExc	I. 3. b. Excise taxes
TaxSalUnal	I. 3. c. Unallocated taxes on sales and production
TaxTra	I. 4. Taxes on international trade
TaxOth	I. 5. Taxes not elsewhere classified
SocialCon	II. Social contributions
Grants	III. Grants revenue
RevOth	IV. Other revenue
NonTaxRes	IV. 1. Nontax revenue from extractive industries
NonTaxOth	IV. 2. Other nontax revenue

Source: Authors.

Note: Residuals, including TaxIncO, TaxSalUnal, TaxOth, and NonTaxOth, are not directly observed. VAT = value-added tax.

APPENDIX 2. Coverage of WoRLD, by IMF Income Group

Appendix Table 2.1.

	Low-Income Developing Countries			Emerging Market Economies			Advanced Economies		
	No. of countries	No. of observations	Coverage (%)	No. of countries	No. of observations	Coverage (%)	No. of countries	No. of observations	Coverage (%)
TotRev	71	1,908	81	84	2,257	81	38	1,153	92
TaxRev	71	1,890	81	84	2,187	79	38	1,128	90
TaxInc	70	1,715	73	81	2,055	74	38	1,037	83
TaxIncI	51	1,110	47	66	1,617	58	38	1,037	83
TaxIncC	52	1,124	48	72	1,795	65	38	1,026	82
TaxIncCRes	6	48	2	20	384	14	0	0	0
TaxIncO	34	695	30	38	835	30	28	688	55
TaxPro	33	595	25	54	1,172	42	33	890	71
TaxSal	70	1,664	71	79	1,963	71	38	1,032	82
TaxSalG	50	972	41	74	1,648	59	33	856	68
TaxSalGI	22	352	15	21	384	14	0	0	0
TaxSalExc	48	937	40	70	1,587	57	34	922	74
TaxSalUnal	35	606	26	46	941	34	34	922	74
TaxTra	69	1,659	71	81	2,043	74	34	919	73
TaxOth	60	1,259	54	72	1,740	63	38	985	79
SocialSec	32	758	32	55	1,289	47	37	1,016	81
Grants	69	1,792	76	74	1,834	66	30	773	62
RevOth	71	1,880	80	84	2,133	77	38	1,049	84
NonTaxRes	20	391	17	37	884	32	3	45	4
NonTaxOth	71	1,879	80	84	2,130	77	38	1,049	84

Source: Authors, based on WoRLD (2024).

APPENDIX 3. Coverage of WoRLD, by IMF Region

Appendix Table 3.1.

	Sub-Saharan Africa			Asia and the Pacific			Europe			Middle East and Central Asia			Western Hemisphere		
	No. of Countries	No. of Observations	Coverage (%)	No. of Countries	No. of Observations	Coverage (%)	No. of Countries	No. of Observations	Coverage (%)	No. of Countries	No. of Observations	Coverage (%)	No. of Countries	No. of Observations	Coverage (%)
TotRev	45	1,233	83	37	996	82	45	1,310	88	32	906	86	34	873	78
TaxRev	45	1,226	83	37	962	79	45	1,267	85	32	894	85	34	856	76
TaxInc	45	1,171	79	35	865	71	45	1,178	79	30	778	74	34	815	73
TaxIncl	35	780	53	25	607	50	45	1,173	79	25	612	58	25	592	53
TaxIncC	36	801	54	26	628	51	45	1,162	78	28	711	67	27	643	57
TaxIncCRes	7	99	7	3	72	6	1	18	1	9	109	10	6	134	12
TaxIncO	29	575	39	12	280	23	28	662	45	10	231	22	21	470	42
TaxPro	17	314	21	19	391	32	36	914	62	21	423	40	27	615	55
TaxSal	45	1,152	78	35	842	69	45	1,180	79	28	671	64	34	814	73
TaxSalG	34	720	48	25	555	45	44	1,090	73	24	469	44	30	642	57
TaxSalGI	18	268	18	4	72	6	4	65	4	8	129	12	9	202	18
TaxSalExc	33	677	46	23	532	44	44	1,137	77	24	481	46	28	619	55
TaxSalUnal	20	355	24	20	422	35	37	952	64	13	229	22	25	511	46
TaxTra	45	1,169	79	32	761	62	44	1,139	77	29	752	71	34	800	71
TaxOth	37	822	55	32	748	61	44	1,092	74	27	637	60	30	685	61
SocialSec	18	439	30	20	438	36	44	1,165	78	16	390	37	26	631	56
Grants	44	1,160	78	32	817	67	35	848	57	32	831	79	30	743	66
RevOth	45	1,207	81	37	960	79	45	1,184	80	32	857	81	34	854	76
NonTaxRes	20	418	28	8	141	12	2	36	2	21	537	51	9	188	17
NonTaxOth	45	1,205	81	37	960	79	45	1,184	80	32	855	81	34	854	76

Source: Authors, based on WoRLD (2024).

REFERENCES

Abdel-Kader, K., and R. A. De Mooij. 2020. *Tax Policy and Inclusive Growth*. Washington, DC: International Monetary Fund.

Akitoby, B., J. Honda, and K. Primus. 2020. *Tax Revenues in Fragile and Conflict-Affected States: Why Are They Low and How Can We Raise Them?* Vol. 143. Washington, DC: International Monetary Fund.

Badunenko, O., and S. C. Kumbhakar. 2016. "When, Where and How to Estimate Persistent and Transient Efficiency in Stochastic Frontier Panel Data Models." *European Journal of Operational Research* 255 (1): 272–87.

Baer, K., S. Gupta, M. Mansour, and S. Pattanayak. 2021. "A Two-Step Approach." In *Macroeconomic Policy in Fragile States*, 297–333. Washington, DC: International Monetary Fund.

Bahl, R. W. 2003. "Reaching the Hardest to Tax: Consequences and Possibilities." Paper presented at the 'Hard to Tax: An International Perspective' Conference, Andrew Young School of Policy Studies, Georgia State University, May 15–16.

Belotti, F., S. Daidone, G. Ilardi, and V. Atella. 2013. "Stochastic Frontier Analysis Using Stata." *Stata Journal* 13 (4): 719–58.

Benitez, J. C., M. Mansour, M. Pecho, and C. Vellutini. 2023. *Building Tax Capacity in Developing Countries*. Washington, DC: International Monetary Fund.

Besley, T., and T. Persson. 2014. "Why Do Developing Countries Tax so Little?" *Journal of Economic Perspectives* 28 (4): 99–120.

Bird, R. M., J. Martinez-Vazquez, and B. Torgler. 2008. "Tax Effort in Developing Countries and High-Income Countries: The Impact of Corruption, Voice and Accountability." *Economic Analysis and Policy* 38 (1): 55–71.

Brito, J. A. 2015. "Defining Country Size: A Descriptive Analysis of Small and Large States." MPRA Paper 66149, University Library of Munich, Germany.

Clist, P., and O. Morrissey. 2011. "Aid and Tax Revenue: Signs of a Positive Effect since the 1980s." *Journal of International Development* 23 (2): 165–80.

Commonwealth Secretariat. 2007. *Small States: Economic Review and Basic Statistics*. Vol. 17. London: Commonwealth Secretariat.

Craigwell, R. C., and C. Thomas. 2010. "Revisiting the Effect of Country Size on Taxation in Developing Countries." MPRA Paper 33470, University Library of Munich, Germany.

Crivelli, E., and S. Gupta. 2014. "Resource Blessing, Revenue Curse? Domestic Revenue Effort in Resource-Rich Countries." *European Journal of Political Economy* 35:88–101.

Crowards, T. 2002. "Defining the Category of Small States." *Journal of International Development* 14:143–79.

Government Finance Statistics Manual (GFSM). 2014. "Government Finance Statistics Manual 2014." https://www.imf.org/external/pubs/ft/gfs/manual/2014/gfsfinal.pdf.

Kumbhakar, S. C., H. J. Wang, and A. P. Horncastle. 2015. *A Practitioner's Guide to Stochastic Frontier Analysis Using Stata*. Cambridge: Cambridge University Press.

Mansour, M. 2014. "A Tax Revenue Dataset for Sub-Saharan Africa: 1980–2010." *Revue d'économie du développement* 22 (3): 99–128.

Mansour, M., and M. J. L. Schneider. 2019. *How to Design Tax Policy in Fragile States*. Washington, DC: International Monetary Fund.

McNabb, K., M. Danquah, and A. M. Tagem. 2021. "Tax Effort Revisited: New Estimates from the Government Revenue Dataset." WIDER Working Paper 2021/170, World Institute for Development Economic Research, Helsinki, Finland.

Steiner, V., and K. Wrohlich. 2005. "Work Incentives and Labor Supply Effects of the 'Mini-Jobs Reform' in Germany." *Empirica* 32 (1): 91–116.

Sy, M., M. A. Beaumont, E. Das, M. G. Eysselein, M. D. Kloeden, and K. R. Williams. 2022. *Funding the Future: Tax Revenue Mobilization in the Pacific Island Countries*. Washington, DC: International Monetary Fund.

Thomas, M. A. H., and M. J. P. Trevino. 2013. *Resource Dependence and Fiscal Effort in Sub-Saharan Africa*. Washington, DC: International Monetary Fund.

Van Nguyen, Q., S. Pascoe, L. Coglan, and S. Nghiem. 2021. "The Sensitivity of Efficiency Scores to Input and Other Choices in Stochastic Frontier Analysis: An Empirical Investigation." *Journal of Productivity Analysis* 55 (1): 31–40.

Zotti, J., R. Pretaroli, F. Severini, C. Socci, and G. Infantino. 2020. "Employment Incentives and the Disaggregated Impact on the Economy. The Italian Case." *Economia Politica* 37 (3): 993–1032.

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