



Constructing the Global Revenue Statistics Database

TECHNICAL PAPER

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Technical paper, 28 June 2018

The *Global Revenue Statistics Database* covers the countries and data from four *Revenue Statistics* publications, which are each published on an annual basis.¹ These publications are produced to focus on domestic resource mobilisation in each of the four groups of countries. Box 1 provides further information about the individual publications and the regional partners involved in each. The four publications use the same classification system and methodology, as set out in the OECD Interpretative Guide (OECD, 2016_[1]).

This technical paper provides a brief overview of the methodology used in the underlying regional and OECD databases to produce the four annual publications and the *Global Revenue Statistics Database*.

Data collection, classification and sources

The new *Global Revenue Statistics Database* covers 80 countries from around the world from 1990 to 2015. It draws on the four annual Revenue Statistics publications and includes 16 African countries, seven Asian countries, 25 countries from Latin America and the Caribbean (LAC) and 35 OECD countries² plus one non-OECD EU member (Lithuania)³. Additionally, three unweighted country group averages are provided: the Africa (16) average⁴, the LAC average and the OECD average.⁵

The OECD Interpretative Guide: definitions & tax classification

All data in the *Global Revenue Statistics Database* are classified using the OECD classification of taxes set out in the Interpretative Guide. This ensures consistency across the countries included in the publication and provides a high granularity of tax revenue categories.

The classification of tax revenues set out in the OECD Interpretative Guide has been in use since the 1970s and is an international reference for policy makers, academics and researchers.⁶

¹ Please see Annex A for more details on the countries covered and the years available for each country.

² Four of the OECD countries are also counted as Asian or LAC countries (Chile, Japan, Korea, and Mexico).

³ Data for Lithuania was provided by the Lithuanian Ministry of Finance through the OECD's Working Party on Tax Statistics and Tax Policy.

⁴ The Africa (16) average is based in the following countries: Cabo Verde, Cameroon, Côte d'Ivoire, the Democratic Republic of the Congo, Ghana, Kenya, Mauritius, Morocco, Niger, Rwanda, Senegal, South Africa, Swaziland, Togo, Tunisia and Uganda.

⁵ Note that Chile and Mexico are included in the LAC average and in the OECD average. There is no Asian average presented due to the insufficient coverage of the Asian countries in the dataset.

⁶ The Interpretative Guide sets out the classification for tax revenues. Non-tax revenues are not included in the Guide or the Global Revenue Statistics Database. However, data on non-tax revenues, and a classification, can be found in *Revenue Statistics in Africa*.

Box 1. Introduction to the *Revenue Statistics* publications

As at June 2018, there are four *Revenue Statistics* publications which cover 79 countries in total.⁷

Revenue Statistics in Africa: The first publication of the Revenue Statistics in Africa series was launched in 2016 with comparable tax revenue data for eight African countries from 1990 onwards. Sixteen African countries, together with an (unweighted) African (16) average were included in the second edition launched in 2017. The publication is co-authored by the OECD Centre for Tax Policy and Administration and the OECD Development Centre together with the African Union Commission (AUC) and the African Tax Administration Forum (ATAF), with the financial support of the European Union.

Revenue Statistics in Asian and Pacific Countries: This publication is jointly produced by the OECD Centre for Tax Policy and Administration and the OECD Development Centre in cooperation with the Asian Development Bank and the Pacific Island Tax Administration Association, with the financial support of the European Union. It compiles comparable tax revenue statistics for seven countries in Asia (including two OECD member countries) from 1990 onwards and from 2018, will include a number of Pacific countries (including two OECD member countries).

Revenue Statistics in Latin America and the Caribbean: This is a joint publication by the OECD Centre for Tax Policy and Administration, the OECD Development Centre, the Inter-American Centre of Tax Administrations (CIAT), the Economic Commission for Latin America and the Caribbean (ECLAC) and the Inter-American Development Bank (IDB). It presents detailed, internationally comparable data on tax revenues for 25 Latin American and Caribbean economies, including two OECD member countries, and covers the years from 1990 onwards.

Revenue Statistics: The annual publication presents detailed and internationally comparable tax data in a common format for the 35 OECD member countries, with data starting from 1965.

The OECD definition of taxes, set out in the Interpretative Guide and used in all Revenue Statistics publications, defines taxes as compulsory, unrequited payments to general government. Taxes are unrequited in the sense that benefits provided by government are not normally in proportion to their payments. According to the OECD classification, taxes are classified by the base of the tax.

The Interpretative Guide provides a highly comparable and internationally-recognised framework which is used to ensure comparability of data across the regions. The Interpretative Guide is also harmonised with other leading statistical classifications, including the System of National Accounts (European Commission et al., 2009^[2]), the European System of Accounts (European Commission, 2010^[3]), and the Government Finance Statistics Manual (International Monetary Fund, 2014^[4]) and contains a bridge table of the different classifications at the lowest level of aggregation.

⁷ The 80th country in the *Global Revenue Statistics Database* is Lithuania, for which data is provided by representatives of the Lithuanian Ministry of Finance to the OECD.

In the OECD classification, taxes are classified by the base of the tax: income and profits (heading 1000), compulsory SSCs (heading 2000), payroll and workforce (heading 3000), property (heading 4000), goods and services (heading 5000), other taxes (heading 6000).

Within the main categories, further subdivisions of tax categories are made which provide a high level of granularity. For example, commonly-cited taxes include PIT (heading 1100), CIT (heading 1200), SSC (heading 2000) and VAT (heading 5111).

Further information on the definition of tax, the classification of taxes and the basis of reporting is set out in Annex B of this paper and in the OECD Interpretative Guide

Approach to data collection for regional publications

The new database draws on data from the four *Revenue Statistics* publications.⁸ The Revenue Statistics for OECD Countries publication, which has been produced since 1972, includes data for all OECD countries, which is submitted to the OECD by national administrations using templates provided by the OECD. Other existing datasets – the IMF’s World Revenue Longitudinal Dataset (WoRLD) and the ICTD/UNU-WIDER Government Revenue Dataset (GRD)⁹ – draw in part from the Revenue Statistics publications in their respective databases on government revenues, which each have different country coverages and data scope.

All African and Asian countries which are included in the respective regional *Revenue Statistics* datasets participate voluntarily. Data collection for these countries is processed as follows:

- First, countries are committed to deliver and share their tax revenue data with the OECD and the regional organisations.¹⁰
- Regular discussions take place between the OECD, regional partners and the national data provider. The national data providers are experts – typically a senior official who has access to the necessary data and a detailed understanding of the tax system and economic context in each country.
- Technical assistance is provided to each country by a team of statisticians at the OECD Centre for Tax Policy and Administration and the OECD Development Centre to resolve classification differences and data gaps. This bilateral and collaborative approach enables the classification to be built from the bottom-up and ensures consistency across countries.
- Finally the data are validated by each country prior to publication.

The tax revenue data from most Latin American countries¹¹ are sourced from public websites of the Tax Administrations, Ministries of Finance or National Statistics institutes and are harmonised in collaboration with regional partner organisations, i.e. ECLAC, CIAT and IDB, which work closely and directly with the Latin American and Caribbean countries concerned.

⁸ *Revenue Statistics in Africa, Revenue Statistics in Asian and Pacific Countries, Revenue Statistics in Latin America & the Caribbean and Revenue Statistics OECD.*

⁹ For more information see <https://data.world/imf/world-revenue-longitudinal-dat> and <https://www.wider.unu.edu/project/government-revenue-dataset>

¹⁰ ATAF, AUC, ECLAC, CIAT and IDB.

¹¹ Argentina, Chile (an OECD country), Colombia, Costa Rica and Mexico (an OECD country) are the LAC countries providing directly data to the OECD.

Further detailed information is available in the respective publication and the metadata which can be accessed via the new online database. An overview of the coverage of the four publications and the included indicators can be found in **Table 1**.

Table 1. Revenue Statistics publications, overview

Revenue Statistics	in Africa	in Asia	in LAC	OECD
Number of countries	16	7	25	35
Time coverage	2000-2015	1990-2015	1990-2015	1965-2015
Common indicators	Revenue in national currency Revenue in USD Revenue as % of GDP	Tax revenue in national currency Tax revenue in USD Tax revenue as % of GDP		
	Tax revenue as % of total tax revenue			
Additional indicators	Non-tax revenue as % of total non-tax revenue	Tax revenues of sub-sectors of general government as % of total tax revenues		
	GDP for tax reporting years at market prices, national currency Exchange rate between the national currency and USD GDP for tax reporting years at market prices, USD			

Source: (OECD/ATAF/AUC, 2017_[5]), OECD (2017_[6]), OECD et al. (2018_[7]), and OECD (2017_[8]).

Compilation of the global database

To construct this new global dataset, data is drawn from the latest four Revenue Statistics publications and no additional data processing has taken place to create this new database. As indicated above, all regional databases and the OECD database have been prepared according to the common classification of taxes provided by the Interpretative Guide. The year from which revenue data is available for each country is indicated in **Table 1** in Annex A.

Key indicators: measuring tax levels and structures

Two main indicators in the dataset measure the tax levels and tax structures of the 80 countries in the dataset over time: the tax-to-GDP ratio and the share of each tax category in total tax revenue. The *Global Revenue Statistics Database* also provides tax revenue data in national currency and in USD.

The tax-to-GDP ratio (total tax revenues expressed as a percentage of GDP) measures the level of taxation in a country and is calculated by dividing the nominal tax revenue of a country by its nominal GDP for the same year. Main tax revenue categories are also expressed as a percentage of GDP. This indicator is one of the key indicators used in cross-country research studies as it provides a standard way to compare tax levels across countries and over time.

Tax structure is measured as a percentage of total taxation where tax revenues of individual tax categories are reported as a percentage of total tax revenue. This indicator allows analysis of a country's tax structure, i.e., the composition of total tax revenue based on different taxes (e.g. income taxes or taxes on goods and services). It allows both a cross-country and across-time comparison of the composition of tax receipts.

Methodology: calculating tax-to-GDP ratios

The tax-to-GDP ratios in the *Comprehensive Revenue Statistics Database* show the level of total tax revenues as a percentage of GDP. The value of this ratio depends on its numerator (tax revenue) as well as its denominator (GDP), which are subject to historical revision:

- The numerator (tax revenue): Tax revenue figures used for the numerator are submitted annually by correspondents from national Ministries of Finance, Tax Administrations and National Statistics Offices or are drawn from public websites. They include subnational revenues, i.e. the revenues levied by local and provincial governments. Compulsory social security contributions paid to the general government are also included to allow comparability between countries who fund social benefits in different ways. In 69 countries, the reporting year of tax revenue coincides with the calendar year, whereas eleven countries have different reporting years. Revenues are reported on a cash or accrual basis¹², as indicated in the individual *Revenue Statistics* publications.
- The denominator (GDP): GDP figures used for the denominator are taken from the OECD National Accounts, the IMF World Economic Outlook and official national accounts data, depending on the region or country.¹³ Where the reporting year differs from the calendar year, the annual GDP estimates are obtained by aggregating quarterly GDP estimates or by adjusting annual GDP figures to make them correspond more closely to the reporting year.

Strengths and limitations of the *Global Revenue Statistics Database*

The *Global Revenue Statistics Database* provides globally comparable revenue data with a high degree of disaggregation, according to a common classification and harmonisation process. This section outlines the strengths and limitations of the new database.

The *Revenue Statistics* framework is based on a consistent, detailed, widely-known and internationally respected classification. The methodology is transparent as each edition includes the edition of the Interpretative Guide used to process the data. The classification discussion with countries is centralised as one single Unit at the OECD's Centre of Tax Policy and Administration is involved with all countries, in collaboration with statisticians at the OECD Development Centre and regional partners. This leads to a coherent application of the classification across countries.

The classification and harmonisation process also increases capacity building. Regular discussions about *Revenue Statistics* by telephone, emails and workshops with experts in countries and regional partners create a stable network of tax officials through the sharing

¹² Data on an accrual basis refer to data which are recorded at the time that the tax liability was created. Data on cash basis are recorded at the time at which the payment was received by government (see §20 and §21 of the Interpretative Guide).

¹³ Africa: IMF, World Economic Outlook, April 2017, OECD National Accounts data for South Africa. LAC: OECD National Accounts data for Chile and Mexico and official National Accounts data for the other countries. CEPALSTAT (ECLAC) data for Cuba. The World Economic Outlook (IMF) was used for Argentina, Bahamas, Panama, Paraguay and Venezuela. Asia: National statistical offices, CEIC (Asia & ASEAN Economic Databases) for Indonesia, Kazakhstan, Malaysia, the Philippines and Singapore

of experiences and best practices. National tax policy makers become experts on classifying and using revenue data. This process also ensures that the database and classification are continually refined and are suited to the changing needs of participating countries.

A first strength is the classification and harmonisation of the data. The *Revenue Statistics* dataset follows a consistent way in standardising the data for all countries using the *OECD classification set out in the Interpretative Guide*. Providing detailed tax information for participating countries is another advantage. The *Global Revenue Statistics Database* gives a great depth of tax information for each of the 80 participating countries through the use of the detailed classification of the Interpretative Guide. The *Revenue Statistics* dataset also provides greater granularity of data via the inclusion of a country-specific detailed breakdown of taxes, within the framework provided by the Interpretative Guide. The OECD, regional partners, and national officials work together to enhance the quality of the data presented. This entails developing methodologies to estimate small amounts of missing data and discussing on a case by case basis the tax base of taxes, which permits a correct classification of taxes that would otherwise have been reported as “other taxes”.

Where difficulties remain in applying the detailed classification in the Interpretative Guide, the OECD and partner organisations work actively with the countries involved to fill those gaps where possible, resulting in several success stories. For example, Côte d’Ivoire and Colombia have implemented internal processes which enable them to provide income tax revenues broken down by PIT revenue and CIT revenue when they were previously unable to do so. Another example is the creation of an electronic database in the Democratic Republic of the Congo to respond to the need to provide Revenue Statistics with information on certain types of revenues and to centralise their revenue data.

The transparency and accessibility of the tax revenue data are additional assets. All data collected in the *Global Revenue Statistics Database* and the underlying *Revenue Statistics* publications are publicly available. All footnotes, caveats and other important notes are published in the metadata, which provide supplementary background information on data preparation and explain country-specific cases in detail.

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Annex A. Tax-to-GDP ratio data for 1990, 2000, and 2015

Table 1. Total tax revenue as % of GDP

Countries	Country codes (ISO)	1990	2000	2015	Data from
Africa (16) - Average	Africa	..	14.2	19.1	2000
Argentina	ARG	13.7	19.8	32.0	1990
Australia	AUS	28.0	30.4	28.2	1990
Austria	AUT	39.4	42.4	43.7	1990
Bahamas	BHS	12.3	15.2	19.9	1990
Barbados	BRB	23.2	30.2	33.6	1990
Belgium	BEL	41.2	43.5	44.8	1990
Belize	BLZ	21.8	19.1	27.3	1990
Bolivia	BOL	8.3	17.6	27.6	1990
Brazil	BRA	25.5	29.6	32.0	1990
Cameroon	CMR	..	12.8	16.4	1993
Canada	CAN	35.2	34.8	32.0	1990
Cape Verde	CPV	10.5	15.6	19.2	1990
Chile	CHL	16.9	18.8	20.5	1990
Colombia	COL	10.6	14.6	20.8	1990
Costa Rica	CRI	21.3	18.4	22.6	1990
Cuba	CUB	29.1	37.2	38.6	1990
Czech Republic	CZE	..	32.4	33.3	1993
Côte d'Ivoire	CIV	21.6	15.3	17.6	1990
Democratic Republic of the Congo	COD	..	0.6	10.8	2000
Denmark	DNK	44.4	46.9	45.9	1990
Dominican Republic	DOM	7.8	10.8	13.5	1990
Ecuador	ECU	7.3	10.3	21.1	1990
El Salvador	SLV	10.5	12.1	17.2	1990
Estonia	EST	..	31.1	33.9	1995
Finland	FIN	42.9	45.8	43.9	1990
France	FRA	41.0	43.1	45.2	1990
Germany	DEU	34.8	36.2	37.1	1990
Ghana	GHA	..	10.0	15.0	2000
Greece	GRC	25.2	33.4	36.4	1990
Guatemala	GTM	8.8	12.4	12.4	1990
Guyana	GUY	20.6	20.8	24.2	1990
Honduras	HND	16.2	15.3	20.4	1990
Hungary	HUN	..	38.6	39.0	1991
Iceland	ISL	30.2	36.2	36.7	1990
Indonesia	IDN	..	8.6	11.8	1997
Ireland	IRL	32.4	30.8	23.1	1990
Israel	ISR	..	34.9	31.3	1995
Italy	ITA	36.4	40.6	43.3	1990
Jamaica	JAM	23.1	22.7	25.7	1990
Japan	JPN	28.2	25.8	30.7	1990
Kazakhstan	KAZ	..	19.8	15.5	1998
Kenya	KEN	18.4	2001
Korea	KOR	18.8	21.5	25.2	1990
LAC - Average	LAC	16.0	18.0	23.1	1990

Latvia	LVA	..	29.1	29.0	1995
Lithuania	LTU	..	30.8	28.9	1995
Luxembourg	LUX	33.5	36.9	36.8	1990
Malaysia	MYS	19.1	14.6	15.3	1990
Mauritius	MUS	23.3	19.3	19.9	1990
Mexico	MEX	12.4	13.1	16.2	1990
Morocco	MAR	..	23.5	26.1	2000
Netherlands	NLD	40.2	37.2	37.4	1990
New Zealand	NZL	36.2	32.5	33.0	1990
Nicaragua	NIC	..	13.0	22.3	1991
Niger	NER	..	9.7	17.0	2000
Norway	NOR	40.2	41.9	38.3	1990
OECD - Average	OECD	31.9	33.9	34.0	1990
Panama	PAN	15.9	15.9	15.9	1990
Paraguay	PRY	5.8	12.6	17.9	1990
Peru	PER	12.1	14.6	17.2	1990
Philippines	PHL	..	15.8	17.0	1994
Poland	POL	..	32.9	32.4	1991
Portugal	PRT	26.5	31.0	34.6	1990
Rwanda	RWA	..	10.2	16.7	1996
Senegal	SEN	..	16.8	20.8	1997
Singapore	SGP	..	15.5	13.6	2000
Slovak Republic	SVK	..	33.6	32.3	1995
Slovenia	SVN	..	36.6	36.6	1995
South Africa	ZAF	23.9	22.4	29.0	1990
Spain	ESP	31.6	33.2	33.8	1990
Swaziland	SWZ	..	10.5	15.3	1995
Sweden	SWE	49.5	49.0	43.3	1990
Switzerland	CHE	23.6	27.4	27.7	1990
Togo	TGO	..	10.9	21.3	2000
Trinidad and Tobago	TTO	23.4	21.4	30.6	1990
Tunisia	TUN	..	24.4	30.3	2000
Turkey	TUR	14.5	23.6	25.1	1990
Uganda	UGA	..	10.7	12.5	1992
United Kingdom	GBR	32.9	33.2	32.5	1990
United States	USA	26.0	28.2	26.2	1990
Uruguay	URY	19.6	21.6	27.0	1990
Venezuela	VEN	18.1	13.6	20.8	1990

Note: For most OECD countries, data are available from 1965 onwards in the OECD Revenue Statistics database.

Source: OECD (2018^[9]), *Global Revenue Statistics Database*, https://stats.oecd.org/Index.aspx?DataSetCode=RS_GBL

Annex B. The OECD classification of taxes

1. 1000 Taxes on income, profits and capital gains
 - 1100 Taxes on income, profits and capital gains of individuals
 - 1110 On income and profits
 - 1120 On capital gains
 - 1200 Corporate taxes on income, profits and capital gains
 - 1210 On income and profits
 - 1220 On capital gains
 - 1300 Unallocable as between 1100 and 1200

2. 2000 Social security contributions
 - 2100 Employees
 - 2110 On a payroll basis
 - 2120 On an income tax basis
 - 2200 Employers
 - 2210 On a payroll basis
 - 2220 On an income tax basis
 - 2300 Self-employed or non-employed
 - 2310 On a payroll basis
 - 2320 On an income tax basis
 - 2400 Unallocable as between 2100, 2200 and 2300
 - 2410 On a payroll basis
 - 2420 On an income tax basis

3. 3000 Taxes on payroll and workforce

4. 4000 Taxes on property
 - 4100 Recurrent taxes on immovable property
 - 4110 Households
 - 4120 Other
 - 4200 Recurrent taxes on net wealth
 - 4210 Individual
 - 4220 Corporate
 - 4300 Estate, inheritance and gift taxes
 - 4310 Estate and inheritance taxes
 - 4320 Gift taxes
 - 4400 Taxes on financial and capital transactions
 - 4500 Other non-recurrent taxes on property
 - 4510 On net wealth
 - 4520 Other non-recurrent taxes
 - 4600 Other recurrent taxes on property

5. 5000 Taxes on goods and services
 - 5100 Taxes on production, sale, transfer, leasing and delivery of goods and rendering of services
 - 5110 General taxes
 - 5111 Value added taxes

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- 5112 Sales taxes
 - 5113 Turnover and other general taxes on goods and services
 - 5120 Taxes on specific goods and services
 - 5121 Excises
 - 5122 Profits of fiscal monopolies
 - 5123 Customs and import duties
 - 5124 Taxes on exports
 - 5125 Taxes on investment goods
 - 5126 Taxes on specific services
 - 5127 Other taxes on international trade and transactions
 - 5128 Other taxes on specific goods and services
 - 5130 Unallocable as between 5110 and 5120
 - 5200 Taxes on use of goods, or on permission to use goods or perform activities
 - 5210 Recurrent taxes
 - 5211 Paid by households in respect of motor vehicles
 - 5212 Paid by others in respect of motor vehicles
 - 5213 Other recurrent taxes
 - 5220 Non-recurrent taxes
 - 5300 Unallocable as between 5100 and 5200
 - 6. 6000 Other taxes
 - 6100 Paid solely by business
 - 6200 Paid by other than business or unidentifiable