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Government Revenue Dataset (GRD)

# Government Revenue Dataset (2021): variable description

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**Abstract:** This technical note is part of a series of technical notes describing the construction of the Government Revenue Dataset (GRD). This document specifically focuses on the composition of variables in the GRD (version August 2021) and across the underlying sources, namely the OECD Revenue Statistics, the IMF Government Finance Statistics, and the IMF Article IV Staff Reports. We provide the general rationale as well as the specific statistical tax codes of aforementioned sources for each variable included in the dataset.

**Key words:** GRD, tax revenue data, government revenue

**JEL classification:** C82, H20, E00

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**Related publications:**

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**Data**: Government Revenue Dataset

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## 1 Introduction

This technical note is based on the Government Revenue Dataset (GRD, version August 2021) (UNU-WIDER 2021). The GRD provides data on government tax and non-tax revenues, social contributions, and grants in both local currency as well as a percentage of GDP. It further displays separately the portion of government revenues that accrue from natural resource extraction. The GRD is a cross-country dataset which complements data from several underlying sources including the OECD Revenue Statistics and the IMF's Government Finance Statistics, as well as the IMF Article IV reports. This approach has led to notable gains in terms of data coverage, particularly for developing countries. The dataset is updated annually. For a more detailed description on data selection, please refer to McNabb et al. (2021a).

This technical note contains a detailed description of the variables present in the GRD. It clusters the variables by type (e.g. whether they refer to tax or non-tax revenue) as well as classifications (e.g. source of tax or non-tax revenue).

**Note for users:** We highlight variables in blue which are the most complete and/or consistent ones and thus recommended for econometric analysis.

Please note that in the column headings in the tables below, IMF refers to IMF GFS code and OECD refers to OECD Revenue Statistics Code.

## 2 Data coverage

This section presents a snapshot of data coverage for selected variables captured in the GRD. The current version (August 2021) of the GRD presents data on 58 variables for a total of 196 countries over the period 1980–2019, with exceptions (see Table 1).[1] Data coverage for the variables Total Revenue (including social contributions and excluding grants) and Total Tax (including social contributions) is about 75 per cent and 77 per cent respectively out of a total of about 7,775 country-years (note that this does not show country representation across years). The corresponding coverage rates for other key aggregates such as Direct Taxes and Indirect Taxes are approximately 68 pe rcent and 74 per cent respectively. In the case of the sub-categories of Taxes on Income, Profits and Capital Gains; Taxes on Goods and Services; and Taxes on International Trade and Transactions, the rates are approximately 70 per cent, 71 per cent 72 per cent respectively.

[1] For example, revenue data for former Soviet republics were not available prior to the early 1990s. Furthermore, countries such as Bosnia and Herzegovina, Serbia and Montenegro did not have data from the underlying sources before 1999 and 2008 respectively. Significant data gaps also exist for countries and territories such as Afghanistan; Iraq; South Sudan, Hong Kong, China; Macao, China and Nauru. Where available, we provide data for year 2020.

Table 1: Coverage for key variables

| | Total Revenue | Total Tax | Direct Tax | Indirect Tax | Taxes on Income, Profits and Capital Gains | Taxes on Goods and Services | Taxes on International Trade and Transactions | Total |
|---|---|---|---|---|---|---|---|---|
| Obs. | 5856 | 6012 | 5321 | 5767 | 5457 | 5488 | 5593 | 7775 |
| Coverage | 75.32 | 77.33 | 68.44 | 74.17 | 70.19 | 70.59 | 71.94 | 100.00 |

Note: first row has *frequencies* (country-year observations) and second row has *column percentages*.

Source: GRD (UNU-WIDER 2021)

## 3 Variables

This section specifically describes tax-relevant variables of the GRD dataset. Of the total of 58 variables, four variables contain country-specific notes that are discussed in McNabb et al. (2021b). Further, there are ten variables that contain general information listed below. If not otherwise specified, they are available in both the Stata and Excel (merged) version of the dataset.

Table 2: General variables

| **Variable name** | **Description** |
|---|---|
| Identifier | Unique identifier of country and year |
| General | Indicates 1 if data refers to general government data |
| Source | Information about the source |
| Country | Country name |
| id (Stata only) | Sample counter on country level n={1,2,….. 196} |
| Reg | Region as by the World Bank Group |
| Inc | Current Income group as by the World Bank |
| Historical Inc | Historical Income group as by the World Bank |
| Year | Nearest calendar year of reported data |
| ISO | ISO code (3 letters) |

Source: GRD (UNU-WIDER 2021).

### 3.1 Revenue

Revenue refers to total government revenue, providing a set of variables that differentiates between sources and sub-components considered. Revenue contains four sub-components, namely:

(i) Taxes;
(ii) Non-Tax Revenue;
(iii) Social Contributions;
(iv) Grants.

The variable Taxes captures tax collected regardless of sources (i.e., unless otherwise defined, this includes resource-based taxes). These follow the definition of taxes found in both the IMF' Government Finance Statistics Manual (GFSM) and OECD Revenue Statistics Interpretive Guide as 'compulsory, unrequited …' payments to the government (IMF 2014; OECD 2020).

Non-tax revenue includes all other revenue that is collected by governments that does not classify as either a tax, social contribution, or grant. According to IMF (2014:85), non-tax revenue captures

'… property income, sales of goods and services, fines, penalties, and forfeits, transfers not elsewhere classified and premiums, fees, and claims related to nonlife insurance and standardized guarantee schemes.'

Social contributions include both compulsory and voluntary social insurance contributions from employers, employees, and the self-employed.[2] Grants include transfers from other government units (foreign) and international organisations. Regarding natural resources, please note that they refer to natural resources that include a significant component of economic rent, primarily from oil and mining activities.

Table 3: Revenue variables

| Variable name | Variable composition | IMF | OECD[3] |
|---|---|---|---|
| Revenue including social contributions<br>Stata: rev_inc_sc<br>xls: column R | Total gov't revenue = taxes + non-tax revenue + grants + social contributions | 1 | n.a. |
| Revenue excluding social contributions<br>Stata: rev_ex_sc<br>xls: column S | Total gov't revenue = taxes + non-tax revenue + grants | 1 - 12 | n.a. |
| Revenue excluding grants, including social contributions<br>Stata: rev_ex_gr_inc_sc<br>xls: column T | Total gov't revenue = taxes + non-tax revenue + social contributions | 1 - 13 | n.a. |
| Revenue excluding grants, excluding social contributions<br>Stata: rev_ex_gr_ex_sc<br>xls: column U | Total gov't revenue = taxes + non-tax revenue | 12 - 13 | n.a. |
| Total resource revenue<br>Stata: tot_res_rev<br>xls: column V | Total natural resource revenue = natural resource revenues {tax revenue, non-tax revenue} | n.a. | n.a. |
| Total non-resource revenue incl. social security<br>Stata: tot_nres_rev_inc_sc<br>xls: column W | Total non-resource rev = (taxes – resource-taxes) + non-tax revenue (excluding resource component) + social contributions | n.a. | n.a. |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

## 3.2 Total taxes

The Taxes variables presents aggregate indicators that capture all tax revenue as defined above. Resource taxes typically present taxes levied on natural resource extraction, although differ across territories. Resource Taxes are not (systematically) defined or captured in the OECD Revenue

[2] The IMF's GFS includes voluntary and imputed social contributions under this heading (12 in the GFS), whilst the OECD (heading 2000) does not. However, the OECD does report this data separately. Thus, in the interest of comparability between sources, when using OECD data, Social Security Contributions are the sum of Heading 2000 + Voluntary and Imputed Social Contributions. See McNabb (2017) for details of the approach.

[3] For OECD member countries at least, the OECD's Revenue Statistics do not capture revenue beyond tax and social contributions. Where the GRD draws from the OECD for total revenue data, these figures come from the OECD National Accounts Series, using the variable Total Government Revenue. Accordingly, for OECD countries, we calculate non-tax revenues as Total Government Revenue – Taxes including social contributions. This rests on the assumption that grants are =0, which we judge to be valid for OECD countries for the period in question.

Statistics, and not captured at all in the IMF's GFS, thus do not have a separate code for either publication.

Table 4: Total taxes variables

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Taxes including social contributions<br>Stata: tax_inc_sc<br>xls: column X | Total tax revenue = taxes + social contributions | 11 + 12 | 1000 + 2000 + 3000 + 4000 + 5000 + 6000 |
| Taxes excluding social contributions<br>Stata: tax_ex_sc<br>xls: column Y | Total tax revenue = taxes | 11 | 1000 + 3000 + 4000 + 5000 + 6000 |
| Resource taxes<br>Stata: resourcetaxes<br>xls: column Z | Resource tax = resource taxes {mostly corporate taxation of resource extraction} | n.a. | n.a. |
| Non-resource taxes including social contributions<br>Stata: nrtax_inc_sc<br>xls: column AA | Total non-resource tax revenue = taxes + social contributions – resource taxes | 11 + 12 – Resource Taxes | 1000 + 2000 + 3000 + 4000 + 5000 + 6000 -Resource taxes |
| Non-resource tax excluding social contributions<br>Stata: nrtax_ex_sc<br>xls: column AB | Total non-resource tax revenue = taxes – resource taxes | 11 – Resource Taxes | 1000 + 3000 + 4000 + 5000 + 6000 - Resource taxes |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

### 3.3 Direct taxes

Direct taxes include taxes on income, profits and capital gains, taxes on payroll and workforce as well as taxes on property. **Please note that the total values of direct taxes (total direct tax mentioned in all variables listed below) may sometimes exceed the sum of the aforementioned sub-components, owing to revenue that is unclassified among these sub-components.** When specified as direct taxes excluding resource revenue, direct taxes comprise non-resource taxes on the mentioned sub-components (e.g., excluding corporate taxes accruing from entities engaged in the extraction of natural resource).

Table 5: Direct taxes variables

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Direct taxes including social contributions and resource revenue<br>Stata: direct_inc_sc_inc_rt<br>xls: column AC | Total direct tax + social contributions | 111 + 112 + 113 + 12 | 1000 +2000+ 3000 + 4000 - 4400 |
| Direct taxes including social contributions, excluding resource revenue<br>Stata: direct_inc_sc_ex_rt<br>xls: column AD | Total direct tax – resource-taxes + social contributions | As above, excluding resource taxes | As above, excluding resource taxes |
| Direct taxes excluding social contributions<br>Stata: direct_ex_sc_inc_rt<br>xls: column AE | Total direct tax | 111 + 112 + 113 | 1000 + 3000 + 4000 - 4400 |
| Direct taxes excluding social contributions and resource revenue<br>Stata: direct_ex_sc_ex_rt<br>xls: column AF | Total direct tax – resource-taxes | 111 + 112 + 113 – Resource Taxes | 1000 + 3000 + 4000 – 4400 – Resource Taxes |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

### *3.3.1 Taxes on income, profits, and capital gains*

Taxes on income, profits, and capital gains (TIPCG) are always reported exclusive of social contributions. The total value of TIPCG may sometimes exceed the sum of the positions displayed in *individuals* and *corporations and other enterprises*, due to revenues that are unallocated between the two.

Table 6: Taxes on income profits and capital gains: variables

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Taxes on income, profits, and capital gains<br>Stata: tax_income<br>xls: column AG | TIPCG | 111 | 1000 |
| Resource component of taxes on income, profits, and capital gains<br>Stata: tax_res_income<br>xls: column AH | TIPCG from natural resources {primarily corporate tax} | n.a. | n.a. |
| Non-resource component of taxes on income, profits, and capital gains<br>Stata: tax_nr_income<br>xls: column AI | TIPCG - TIPCG from natural resources | 111 - TIPCG from natural resources | 1000 - TIPCG from natural resources |
| Individuals<br>Stata: tax_indiv<br>xls: column AJ | TIPCG from individuals (PIT) | 1111 | 1100 |
| Corporations and other enterprises<br>Stata: tax_corp<br>xls: column AK | TIPCG from corporations (CIT) | 1112 | 1200 |
| Resource component of corporations and other enterprises<br>Stata: tax_res_corp<br>xls: column AL | CIT from natural resources (corporates) | n.a. | n.a. |
| Non-resource component of corporations and other enterprises<br>Stata: tax_nr_corp<br>xls: column AM | TIPCG of corporations - CIT from natural resources | 1112 - CIT from natural resources | 1200 - CIT from natural resources |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

### *3.3.2 Taxes on payroll and workforce*

Total taxes on payroll and workforce are always reported excluding social contributions, although in underlying sources, for certain countries, there is an element of conflation between the reporting of social contributions and payroll taxes; see McNabb (2017).

Table 7: Taxes on payroll and workforce

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Taxes on payroll and workforce<br>Stata: tax_payr_workf<br>xls: column AN | Total taxes on payroll and workforce | 112 | 3000 |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

### *3.3.3 Taxes on property*

This variable displays the total taxation on property, comprising mostly recurrent taxes on immovable property and net wealth, estate, inheritance and gift taxes, capital levies and other recurrent taxes on property. Note that the OECD's revenue statistics class taxes on financial and capital transactions as a property tax, whilst the IMF's GFSM 2014 does not.[4] In the name of consistency, these are removed from the property tax figure for OECD countries and placed into taxes and goods and services; see McNabb (2017) for a fuller discussion.

Table 8: Taxes on property

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Taxes on property<br>Stata: tax_property<br>xls: column AO | Total taxes on property | 113 | 4000 - 4400 |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

## 3.4 Indirect taxes

Indirect taxes comprise the sum of taxes on goods and services, international trade and transactions, and other taxes. The position displayed in Indirect may exceed the sum of mentioned sub-components due to unallocated revenue not classified in any of these categories. Note that the component of indirect taxes from natural resources is only non-zero in a small number of cases.

Table 9: Indirect taxes

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Indirect<br>Stata: tax_indirect<br>xls: column AP | Indirect = tax on goods and services + tax on int'l trade + other taxes (may include a resource component) | 114 + 115 + 116 | 5000 + 6000 + 4400 |
| Resource component of indirect<br>Stata: res_indirect<br>xls: column AQ | Often export taxes on natural resources, where separately reported. | n.a. | n.a. |
| Non-resource component of indirect<br>Stata: nr_indirect<br>xls: column AR | Indirect = tax on goods and services + tax on int'l trade + other taxes (net of any resource component) | 114 + 115 + 116 – Resource component | 5000 + 6000 + 4400 – Resource component |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020)

### *3.4.1 Taxes on goods and services*

The majority of taxes on goods and services is comprised of sales taxes, value-added taxes (VAT) and excise duties. The OECD's Revenue Statistics classes taxes on international trade and transactions under taxes on goods and services; thus for the GRD it is stripped out and reallocated as shown below. Note that the total of 'Taxes on Goods and Services' may be greater than the sum of the subcomponents due to unallocated residual revenues. Note also that, historically, a large number of countries classed VAT and Excise duty collected on imports as trade taxes. Both the IMF and OECD classify these as taxes on goods and services, and thus fall in this category. In

[4] Previous versions of the IMF's GFSM did include these under property tax; thus, there may be some small comparability issues with historic data from the IMF's Article IV reports. These distortions are not believed to be substantial as (i) the majority of the Article IV reports for developing countries do not report property tax separately and (ii) where taxes on financial and capital transactions comprise a substantial subcomponent of property tax, they *are* often reported as a separate line item. Nonetheless, we urge users to exercise caution in this regard.

the GRD, where it has not been possible to make this correction—primarily where historical Article IV data is involved—a note has been added to the relevant observations.

Table 10: Taxes on goods and services

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Taxes on goods and services<br>Stata: tax_g_s<br>xls: column AS | Total taxes on goods and services | 114 | 5000 + 4400 – 5123 – 5124 – 5127 |
| General taxes on goods and services<br>Stata: tax_gs_general<br>xls: column AT | General taxes on goods and services = VAT + sales tax + turnover tax + tax on financial and capital transactions | 1141 | 5110 + 4400 |
| VAT<br>Stata: tax_gs_vat<br>xls: column AU | Total value added tax | 11411 | 5111 |
| Excises<br>Stata: tax_gs_excises<br>xls: column AV | Total excise duty | 1142 | 5121 |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020)

### *3.4.2 Taxes on international trade and transactions*

Taxes on international trade include taxes on imports and exports.

Table 11: Taxes on international trade and transactions

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Taxes on int´l trade and transactions<br>Stata: tax_trade<br>xls: column AW | taxes on import + taxes on export + other taxes on international trade | 115 | 5123 + 5124 + 5127 |
| Import<br>Stata: tax_trade_import<br>xls: column AX | Total taxes on imports | 1151 | 5123 |
| Export<br>Stata: tax_trade_export<br>xls: column AY | Total taxes on exports | 1152 | 5124 |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

### *3.4.3 Other taxes*

Total other taxes comprises tax revenues that are not otherwise classified, or identified. Often this incorporates, amongst other items, certain stamp duties.

Table 12: Other taxes

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Other taxes<br>Stata: tax_other<br>xls: column AZ | Total other taxes | 116 | 6000 |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

## 3.5 Non-tax revenue

These variables represent the non-tax components of government revenues. Total non-tax revenue is generally based on data categorized as either 'non-tax revenue' or 'other revenue' depending on the underlying source.

Table 13: Non-tax revenue

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Total non-tax revenue<br>Stata: nontax<br>xls: column BA | Total non-tax revenue | 14 | n.a. |
| Resource component of non-tax<br>Stata: res_nontax<br>xls: column BB | Resource component of non-tax revenue | n.a. | n.a. |
| Non-resource component of non-tax<br>Stata: nr_nontax<br>xls: column BC | Non - Resource component of non-tax revenue | 14 – Resource Component of Non-tax revenue | n.a. |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

## 3.6 Social contributions

The variable for social contributions captures all social contributions remitted to government, either by employees, employer or the self-employed. This category also includes voluntary and imputed social contributions.

Table 14: Social contributions

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Social Contributions<br>Stata: sc<br>xls: column BD | Total Social Contributions | 12 | 2000 + Voluntary and Imputed Social Contributions |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

## 3.7 Grants

Grants include transfers from other government units (foreign) and international organisations. Whilst it is possible that at subnational levels of government, grants might also include intragovernmental grants, these are 'netted out' at the general government level and it is unlikely that grants would flow from state or local governments to the central government (the other level at which the GRD reports).

Table 15: Grants

| Variable name | Variable composition | IMF | OECD |
|---|---|---|---|
| Grants<br>Stata: grants<br>xls: column BE | Total Grants Received | 13 | n.a. |

Source: GRD (UNU-WIDER 2021); IMF (2014); OECD (2020).

### 3.8 Variables that contain Caution Notes

The variables below are compiled by UNU-WIDER in order to allow the user to assess the quality of displayed data as well as to highlight certain caveats and exemptions. They are key for a meaningful interpretation and use of the data as well as to enhance transparency.

Table 16: Caution notes

| Variable name | Variable composition |
|---|---|
| Caution 1 Accuracy, Quality or Comparability of data questionable<br>Stata: caution1accuracyqualityorco<br>xls: column K | (0/1). If 1, then there are concerns about the quality, accuracy or comparability of these observations. This suggests that the data differs from surrounding years within country, or from other countries. Users are urged to consult the accompanying notes and, in many cases, should exclude such data from cross country or econometric analysis. |
| Caution 2 Un-excluded Resource Revenues/ taxes are significant but cannot be isolated from total revenue/ taxes<br>Stata : caution2resourcerevenuestax<br>xls : column M | (0/1) If 1, then it has not been possible to exclude resource revenues from one or more of the sub-components of total revenue. Users should consult the notes and exclude from x-country or econometric analysis which relies on revenue categories being net of resource revenue. |
| Caution 3 Un-excluded Resource Revenue/ taxes are marginal but non-negligible and cannot be isolated from total revenue/ taxes<br>Stata: caution3unexcludedresourcere<br>xls: column N | (0/1) If 1, then users should treat this data with caution, as resource revenues are small, but not entirely negligible, and are not excluded from tax or total revenue because they are not reported separately in existing sources |
| Caution 4 Inconsistencies with Social Contributions<br>Stata: caution4inconsistencieswiths<br>xls: column P | (0/1) If 1, there are specific circumstances in this country that suggest the treatment of social contributions is not entirely consistent with that elsewhere, or over time in that country. For example, if two sources report social contributions at different levels of the general government, or if the country does not collect much in the way of social contributions, instead funding social security through taxes, or private sector contributions, making x-country comparisons difficult. |

Source: GRD (UNU-WIDER 2021).

Please note that, accompanying the notes, the GRD also includes the variables General Notes, Caution 1 Notes, Social Contributions Notes, and Resource Revenues Notes. These variables contain country-specific information. Pertaining to each of the four cautions shown in Table 15. An overview of these notes is given in McNabb et al. (2021b).

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