



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Finance FDF
Federal Finance Administration FFA
Financial Statistics Section

Overview: financial statistics models and methodology

28.09.2020

Contents

1 Overview: financial statistics models and methodology	2
1.1 Information on methodology	2
1.2 Overview of financial statistics models	2
1.3 Government Finance Statistics Model (GFS)	4
1.4 Data sources	4
1.5 Differences between financial statistics and state financial statements	5
2 Glossary of financial statistics indicators	8

1 Overview: financial statistics models and methodology

1.1 Information on methodology

The national comparability of the accounting data of Switzerland's government units is achieved with the financial statistics using the FS Model. This is based on the Harmonized Accounting Model for the Cantons and Municipalities (HAM2)¹. The FS Model is also used as a basis for international comparisons. This comparability is ensured in accordance with the guidelines of the Government Finance Statistics Manual 2014 (GFSM 2014) of the International Monetary Fund (IMF) using the so-called GFS Model of financial statistics and with the guidelines of the European System of Accounts (ESA 2010) using the so-called ESA Model of financial statistics. The ESA Model data is published by the Federal Statistical Office (FSO) within the framework of the system of national accounts².

The second phase of the methodological reconciliation with the system of national accounts of the Federal Statistical Office (FSO) was completed with the publication of September 28, 2020³. The first phase (2017 revision) focused on non-financial transactions and balance sheet stocks, while the 2020 revision completed the reconciliation of financial transactions in financial assets and liabilities, as well as other economic flows. The revisions necessitated by this reconciliation are explained in the technical notes⁴.

- Consolidation: All transactions between government units are fully consolidated with the GFS Model, whereas the system of national accounts has only partial consolidation. Production-related intermediate consumption and intermediate production between government units are not consolidated in the system of national accounts. Primarily the compensation shown in the FS Model is concerned here in Switzerland.
- The partial consolidation with the system of national accounts results in general government expenditure and general government receipts being increased by the same amount relative to the GFS Model. This has no impact on the deficit/surplus ratio, but the general government expenditure ratio turns out to be higher. The tax-to-GDP ratio is not affected, as taxes and contributions to social security funds are not consolidated.

1.2 Overview of financial statistics models

The statistics on Switzerland's public finances, or financial statistics for short, give an overview of the revenue, financial and asset situation of the government units in Switzerland. The financial statistics data is recorded, processed and evaluated in the so-called FS Model, the core of which is based on the HAM2. The Swiss Public Sector Financial Reporting Advisory Committee⁵ (SRS-CSPCP) publishes information on the current status of the HAM2, as well as interpretations

¹ See „Harmonized Accounting Model for the Cantons and Municipalities“, HAM2

² <https://www.bfs.admin.ch/bfs/en/home/statistics/national-economy/national-accounts/sequence.html>

³ Switzerland's system of national accounts is based on the European System of National and Regional Accounts, ESA 2010. Both the ESA 2010 and the GFSM 2014 are based on the standard reference work for national accounts, the System of National Accounts (SNA 2008) of the international organizations (UNO, OECD, IMF, World Bank, European Commission).

⁴ See [technical notes](#) (Adjustments to the FS Model and GFS Model of financial statistics as of September 7, 2017 and September 28, 2020).

⁵ See <http://www.srs-cspcp.ch/en>

concerning individual specialist recommendations and frequently asked questions online on its website.

HAM2, as well as interpretations concerning individual specialist recommendations and frequently asked questions online on its website. The FS Model is a model for financial statistics that allows the financial results supplied by the Confederation, cantons, municipalities and social security funds to be standardized and made comparable. At the same time, it forms the basic statistics for mapping, statistical operations and evaluations in accordance with the international GFS Model of financial statistics, in which the public finance guidelines of the IMF are implemented. The HAM2 chart of accounts forms the basis for the economic classification used in the FS Model. On the one hand, it is streamlined to simplify matters and on the other, items "not elsewhere classified" are added, as municipalities are still partly supplying their accounts according to the earlier HAM1. These additional items are needed because the HAM1 is less detailed in parts. Consequently, these positions cannot be clearly mapped to HAM2 items. Apart from quite minor exceptions, the functional classifications of the HAM1 and HAM2 are the same. The data from the Confederation's separate accounts and state financial statements, as well as the social security funds, is also integrated in this model and is incorporated directly into the GFS Model. In the case of the general government sector, both models use the same delimitation criteria for determining the consolidation scope as those used in the national accounts. This sector is subdivided into the economic sub-sectors Confederation (including separate accounts and decentralized administrative units), cantons, municipalities and social security funds. The consolidated general government sector thus covers all government units. Public enterprises are not included. However, the FS and GFS Models serve different purposes ([Table 1](#)). The inclusion of separate accounts and decentralized administrative units in the Confederation sub-sector, for example, leads to indicators that are not directly comparable with those produced in the Confederation's financial reporting.

Table 1: Overview of financial statistics models published

	FS-Model	GFS-Model
Basis	National accounting models for the cantons and municipalities (HAM2) and the Confederation (NAM)	International financial statistics guidelines of the IMF (GFSM 2014)
Objective	National comparability of government units	International comparability of the general government sector and its sub-sectors
Results	Statements of financial performance and investments, financing statement and statement of financial position	Operating statement, transactions in non-financial assets and balance sheet
Scope	Economic sub-sectors (Confederation, cantons, municipalities, social security funds) and the general government sector down to the level of individual budgets (cities and cantonal capitals, cantons, individual social security funds)	Only at the level of the economic sub-sectors (Confederation, cantons, municipalities, social security funds) and the general government sector

1.3 Government Finance Statistics Model (GFS)

Like the FS Model, the GFS Model also uses the accrual basis of accounting, the main feature of which is the allocation of business transactions to the corresponding accounting period. The GFS Model does not provide a breakdown between ordinary and extraordinary results, and instead distinguishes between transactions and other economic flows. While the net operating balance⁶ and net lending/borrowing⁷ are derived from transactions and can be controlled by fiscal policy, unanticipated events⁸ such as changes in the value of stocks are considered other economic flows, which are beyond policy control. Stocks are valued in accordance with the "true and fair view" principle, whereby negotiable assets and liabilities in particular are recognized in the balance sheet⁹ at fair value.

Investments are also reported differently in the GFS Model than in the FS Model. A key variable in transactions in non-financial assets in the GFS Model is what is termed the net acquisition of non-financial assets. This is defined as acquisitions less disposals of non-financial assets and less the consumption of fixed capital. Unlike in the FS Model, however, loans granted to other government units and associated increases in financial interests are not recognized as investments and are thus not included when calculating transactions in non-financial assets. They are treated as transfers to other general government levels and are thus considered part of the operating statement.

1.4 Data sources

The financial statistics are based on the data disclosed in the state financial statements of the Confederation and all the cantons, as well as the annual reports of around 1,740 municipalities. All cities and cantonal capitals as well as random samples per canton are taken into account. Based on the accounts of the municipalities surveyed, estimates and extrapolations are made for the other municipalities per canton. In recent years, the Financial Statistics Section has pushed ahead with the full surveys of all municipalities in a given canton. Consequently, for the current fiscal year of 2018, an estimate was necessary only for the cantons of Fribourg, St. Gallen, Vaud, Valais and Jura. The municipalities of all of the remaining 21 cantons were surveyed in full. Social security funds are also taken into account (old-age and survivors' insurance, disability insurance, compensation for loss of earnings and unemployment insurance, agriculture family allowances, maternity insurance in Geneva). Institutions that are counted in the government units but not included in the state and municipal accounts are integrated into the statistics for the sake of comparability and completeness. In contrast, public enterprises that are consolidated in the state and municipal accounts are excluded (see 3.1.4.). For these reasons, the evaluations in the financial statistics do not necessarily correspond to the financial statements published by the Confederation, cantons, municipalities and social security funds.

⁶ Net operating balance = revenue - expense

⁷ Net lending/borrowing = net operating balance - net acquisition of non-financial assets = government receipts - government expenditure

⁸ Unanticipated events in the GFS Model are not to be confused with extraordinary transactions in the FS Model. For example, the recapitalization of pension funds is not considered as an unanticipated event in the GFS Model. In contrast, the consequences of a natural disaster or valuation changes due to changes in market prices are considered as unanticipated events that are beyond the control of fiscal policy.

⁹ The term *balance sheet* is used in the GFS Model instead of the term *statement of financial position*.

Due to the vast workload involved in compiling and harmonizing the data caused by the federal structure of the government units, there is generally a time lag of some 18 months before publication of the definitive results for each fiscal year. However, estimates can be used to provide more up-to-date statements and forecasts for the general government sector and the individual sub-sectors, i.e. Confederation, cantons, municipalities and social security funds. Up to 2018, the financial statistics figures are based on the financial statements ([Table 2](#)).

For the Confederation (including separate accounts and decentralized administrative units), the 2019 figures are likewise based on the corresponding annual financial statements. The 2020 forecasts are based on the June extrapolation and the budgets for the separate accounts and decentralized administrative units. The 2021 forecasts are based on the budget or on the financial plans as the case may be. In the case of the cantons, the forecasts are based on the currently available accounting data (2019), a survey of the cantonal budgets and financial plans, as well as various indicators (2020-2021). The 2019-2021 forecasts for the municipalities are based on several indicators. The figures for the social security funds are based on their financial statements up to 2019, and the 2020-2021 forecasts are based on their budgets or financial plans.

In the case of the cantons and municipalities, it needs to be borne in mind that the budgets and financial plans used for preparing the forecasts are not uniform. Consequently, discretionary measures (e.g. relief programs, recapitalization of pension funds) of these government units are not always incorporated into the forecasted data. For this reason, the figures are to be interpreted with all due caution as the length of the forecast horizon increases.

The updated results and information on the methods are available online¹⁰.

Table 2: Sources for financial statistics data, 2020

Sub-sector	Up to 2018	2019	2020	2021
General government	Financial statements	Forecasts	Forecasts	Forecasts
Confederation	Financial statements	Financial statements	Extrapolation	Budget/financial plans
Cantons	Financial statements	Data available	Budget survey	Forecasts
Municipalities	Financial statements	Forecasts	Forecasts	Forecasts
Social security funds	Financial statements	Financial statements	Budget/ financial plans	Budget/ financial plans

Including separate accounts and decentralized administrative units

Grayed: extrapolations and forecasts

1.5 Differences between financial statistics and state financial statements

The differences between the figures published by the Financial Statistics Section and the government units' own state financial statements are explained below. Such discrepancies can occur in all sub-sectors of the general government (Confederation, cantons, municipalities and social security funds). They generally arise as a result of differences in the understanding of the scope

¹⁰ <https://www.efv.admin.ch/efv/en/home/themen/finanzstatistik/daten.html>

of consolidation, i.e. the sectoring of financial statistics. For the purpose of financial statistics, the entities included in the general government sector are defined in accordance with the criteria of the European System of Accounts (ESA 2010). Thus, in addition to the Confederation as the parent entity, the cantons, municipalities and social security funds, all other entities meeting these criteria are also included. In financial statistics, general government units are thus all entities that are independent institutions under state control and which either:

- collect taxes,
- redistribute income and wealth, or
- fund less than half of their production costs via sales or fees.

Institutions not meeting these criteria are not included or are removed from the state financial statements. Thus, public enterprises like hospitals, electricity, gas and district heating plants, transportation companies, waterworks, waste incineration plants and antenna installations that cover over half of their production costs through the sale of goods and services or through fees do not fall under the general government sector. Likewise, the general government sector does not include state financial institutions and financial service providers such as the Swiss National Bank, cantonal banks or public-sector pension funds. These are classified as financial corporations. Financial and non-financial corporations are recorded as separate economic sectors in the Swiss system of national accounts, with no distinction being made between public and private enterprises.

According to the financial statistics, the Confederation sub-sector comprises the Confederation itself as the parent entity as well as the separate accounts that appear in the Confederation's financial reporting but which are not consolidated with the parent entity: Swiss Alcohol Board (SAB; up to 2017), infrastructure fund (IF) and, from 2018, motorway and urban transportation fund, which has replaced it, fund for major railway projects (FinPT) and, from 2016, railway infrastructure fund (RIF), which has replaced it. It also includes the decentralized administrative units that are more than 50 % funded by the Confederation, as set out in the ESA 2010 criteria: ETH Domain, Swiss Federal Institute for Vocational Education and Training (SFIVET), Swiss Federal Institute of Metrology (METAS), Innosuisse, Movetia, Swiss National Science Foundation (SNSF), Swiss National Museum (SNM), Switzerland Tourism, Pro Helvetia Arts Council, feed-in remuneration at cost foundation (CRF, up to 2017) and Building Foundation for International Organisations (FIPOI). On the other hand, FINMA and its predecessors are funded mainly through fees and supervisory duties paid by the regulated bodies and are thus not included; they are no longer included in the Confederation's state financial statements. The differences between the national FS Model and the international GFS Model also have to be taken into account. These exist primarily through the separate booking of other economic flows in the GFS Model. This leads to a narrower definition of revenue and expense in the GFS Model. [Table 3](#) shows the sequence for moving from the balances in the state financial statements in accordance with the Confederation's financial reporting to the balances calculated using the GFS Model. The lower part of the table shows the Confederation sub-sector's debt with the Maastricht definition, the so-called Maastricht debt. The differences between gross debt according to financial reporting, gross debt with the national FS Model and Maastricht debt are thus shown.

Financial statistics models and methodology

Table 3: Differences in the Confederation's financial reporting – FS Model – GFS Model, in CHF mn

	2015	2016	2017	2018	2019
Ordinary result financial reporting	2'337	752	2'621	3'138	3'060
+ Extraordinary result financial reporting	493	478	177	90	541
Overall fiscal balance financial reporting	2'831	1'230	2'798	3'229	3'600
+ Balance from consolidation of separate accounts of the federal account (1)	-140	522	938	1'661	1'200
+ Balance from the consolidation of additional separate accounts (1)	15	120	169	-29	-25
+ Balance from special items	8	13	11	31	35
Overall fiscal balance FS Model	2'714	1'885	3'916	4'892	4'810
- Balance sheet transactions adjustment (2)	-184	173	222	219	117
- Other economic flows adjustment (2)	19	-451	29	116	160
+ Accrual accounting (3)	-554	-1'379	-92	-172	-182
+ Statistical operations (4)	-157	-411	1'615	932	1'620
Net lending/borrowing GFS Model	2'167	372	5'188	5'317	5'971

	2015	2016	2017	2018	2019
Gross debt in accordance with financial reporting	103'805	98'819	105'242	99'407	96'948
- Financial derivatives (negative replacement values)	203	178	125	128	140
Gross debt general government according to FS	103'602	98'641	105'117	99'278	96'808
+ Gross debt separate accounts/consolidation (1)	-1'221	-962	-701	-649	96
Gross debt FS	102'381	97'679	104'416	98'629	96'904
+ Coins in circulation according to SNB	3'061	3'095	3'142	3'183	3'212
- Outstanding invoices, advance payments received, tax liabilities, cash deposits (confiscated assets)	7'235	8'098	10'582	10'931	12'133
+ Provisions for warranties for ocean shipping	0	215	100	100	30
Maastricht-Debt	98'207	92'890	97'076	90'981	88'013

(1) Separate accounts (SAB [up to 2017], IF [up to 2017], motorway and urban transportation fund, FinPT [up to 2015], RIF) and decentralized administrative units financed primarily by tax (ETH, SFIVET, METAS, Innosuisse, Movetia, Swiss National Science Foundation, Swiss National Museum, Switzerland Tourism, Pro Helvetia, CRF [up to 2017], FIPOI)

(2) Not included in the balance in accordance with the GFS Model

(3) Entries without a financial impact (included in the GFS balance)

(4) Statistical operations for the purpose of adjusting to the IMF's GFSM 2014

2 Glossary of financial statistics indicators

The financial statistics indicators are stated using the international GFS Model of financial statistics in accordance with the guidelines of the IMF. The Maastricht debt ratio is calculated according to the EU's definition¹¹. This ensures that the indicators are internationally comparable. The indicators for the general government sector and its sub-sectors (Confederation, cantons, municipalities and social security funds) are based on five aggregates, each of which is expressed as a percentage of GDP. They serve primarily as a basis for international comparisons. The ratios are based on nominal GDP in accordance with the European System of Accounts (ESA 2010).

Tax-to-GDP ratio: The tax-to-GDP ratio measures the general government sector's total tax revenue (tax and social security contributions) in relation to nominal GDP. In addition, the tax ratios of the Confederation, cantons and municipalities as well as the social security funds can be calculated. Social security contributions include mandatory contributions for old-age and survivors' insurance, disability insurance, compensation for loss of earnings and unemployment insurance, agriculture family allowances and maternity insurance in the canton of Geneva. Although mandatory, health insurance, accident insurance and pension fund contributions are not taken into account, as these corporations do not belong to the general government sector. Therefore, the tax-to-GDP ratio is not to be understood as the ratio of compulsory payments. The tax-to-GDP ratio expresses the proportion of GDP used by the general government to finance its tasks using taxes and contributions. A major divergence between the general government expenditure ratio and the tax-to-GDP ratio may be an indication of a debt-financed budget. In Switzerland, however, the difference is mainly due to other revenue (e.g. fees or charges), which is not included in the tax-to-GDP ratio.

Receipt ratio: The receipt ratio shows the total revenue or total receipts in the GFS Model in relation to nominal GDP. Aside from tax and social security contributions, it also includes other revenue such as fees, rental charges, dividends and output for own final use in the area of research and development. Receipt ratios can be calculated for the individual sub-sectors of the general government sector.

General government expenditure ratio: The tax-to-GDP ratio serves to finance the general government expenditure ratio, which is defined as total government expenditure in relation to nominal GDP. Total expenditure (current expense and net acquisition of non-financial assets) in all sectors is taken into account in the process. Tax ratios can also be calculated for the individual sub-sectors of the general government sector.

Deficit/surplus ratio: The deficit/surplus ratio for the general government sector or one of its sub-sectors corresponds to net lending/borrowing in accordance with the GFS Model as a percentage of nominal GDP. Net lending/borrowing can be calculated in two ways:

$$\begin{aligned}\text{Net lending/borrowing} &= \text{revenue} - \text{expense} - \text{net acquisition of non-financial assets} \\ &= \text{government receipts} - \text{government expenditure}\end{aligned}$$

Debt ratio: The Maastricht debt ratio shows the relationship between the consolidated debt of the general government sector and nominal GDP. The debt used for calculating this indicator includes the following financial instruments on the liabilities side of the balance sheet using the GFS Model: currency and deposits, debt instruments and loans. However, in accordance with the Maastricht

¹¹ See [Eurostat \(2019\): Manual on Government Deficit and Debt – Implementation of ESA 2010, Part VIII, Luxembourg](#)

Glossary

definition, these are valued at face value instead of fair value. The definition of the financial instruments taken into account is somewhat narrower than the definition of gross debt in the current Harmonized Accounting Model for the Cantons and Municipalities (HAM2). Some current liabilities under the FS Model¹² which are part of gross debt in accordance with the HAM2 are allocated to other accounts payable under the GFS Model, which are not part of Maastricht debt.

Gross debt ratio: The gross debt ratio states general government debt according to the IMF definition as a percentage of nominal GDP. With the exception of financial derivatives, it includes all liabilities on the liabilities side of the balance sheet and is more broadly defined than Maastricht debt and is therefore always higher in principle. Another important difference is that the IMF requires market valuation of debt capital insofar as possible. The IMF gross debt ratio is therefore subject to significantly greater fluctuations than the Maastricht debt ratio, where debt is included at face value. Bonds and other market-traded debt instruments, in particular, reached a relatively high level in the last few years compared with their face value. Nonetheless, the IMF gross debt ratio follows a similar trend to the Maastricht debt ratio and is 10 percentage points higher than it on average.

Government unit: The consolidated accounts of a government unit adjusted for internal transactions are made up of its own accounts (parent entity) and the separate accounts of all institutional entities for consolidation that are under the control of the executive and legislative bodies of said government unit. All controlled entities whose sales of goods and services do not cover at least 50 % of production costs are for consolidation. If, however, the consolidated financial statements of a government unit include government-controlled entities that are largely self-financed via the sale of goods and services, these are removed. Such entities are treated as public market producers or public enterprises. The scope of the general government sector is described in "Scope of the financial statistics"¹³, which contains a list of added and eliminated entities.

¹² E.g. current liabilities on trade accounts payable or advance payments received.

¹³ See <https://www.efv.admin.ch/efv/en/home/themen/finanzstatistik/methoden.html>