

Maastricht debt: methodological principles, compilation and development in Germany

The Maastricht Treaty established the government deficit and (gross) government debt as cornerstones of the European fiscal rules. The respective ceilings defined in the Treaty are 3% and 60% of gross domestic product (GDP). In Germany, the Federal Statistical Office compiles the deficit data as defined by the Maastricht Treaty, while the Bundesbank compiles the Maastricht debt data.

Maastricht debt encompasses loans, debt securities issued and deposits received as well as liabilities arising from coins in circulation. To make the figures comparable across Europe, the European System of Accounts (ESA) is used as a common statistical basis for the compilation. The required data come from very different accounting systems in Germany, because not just core budgets but also off-budget entities have to be included. Moreover, local government accounting is governed by rules specific to the relevant state government, which sometimes grant the option of choosing between double-entry and single-entry bookkeeping. Furthermore, to compile the Maastricht debt data, additions and adjustments have to be performed against the original data stemming from the national debt statistics and use made of several other data sources, special surveys and model calculations.

In recent years, agreements have been reached at the European level imposing much higher requirements on the scope and quality of the statistics that have to be reported, and the supervision by Eurostat has been extended. This presents mounting challenges for Germany, too. Against this backdrop, it would make sense to aim for a more harmonised accounting system across general government that depicts income and expenditure flows with balance sheet stocks in an integrated way. At the very least, however, the existing accounting systems need to be adapted such that European and international data needs can be met.

Figures for Germany's Maastricht debt are available from 1991. The debt ratio rose from 39% to 81% in 2010, driven particularly by burdens connected with German reunification and by the financial and economic crisis. Other factors that played a role were the propping up of the financial markets, when state-owned "bad banks" took on bank portfolios, and later also the assistance loans granted to other euro area member states. Over the past few years, the debt ratio has been scaled back significantly thanks to very favourable macroeconomic developments and healthy budgets in addition to portfolio deleveraging at the "bad banks". At the end of 2017, the ratio stood at 64.1%, while debt amounted to €2.09 trillion. It looks likely that Germany will fall back below the 60% limit by the coming year at the latest.

Sound public finances are linchpin of European monetary union

The Maastricht criteria: cornerstones of the European fiscal rules

Sound public finances are a key foundation for a stability-oriented monetary union. The EU member states therefore set out fiscal rules in the Maastricht Treaty and subsequently augmented them with the Stability and Growth Pact. The Maastricht Treaty specifies reference values: 3% of gross domestic product (GDP) for the government deficit and 60% of GDP for government debt (the Maastricht criteria). As a rule, these should not be exceeded.¹ The reference values (and extensive additional data) have to be compiled by member states using common Europe-wide rules and reported to Eurostat, Europe's statistical office, twice a year. Eurostat reviews the figures, expresses any reservations it may have, and can request adjustments or make them itself. As a particular consequence of Greece's serious misreporting of data, the statistical reporting requirements and checks were intensified considerably. Moreover, specific requirements were placed on the government accounting systems underpinning the statistics, and the option of imposing sanctions for attempted fraud and serious negligence in reporting was introduced. The European Council can impose sanctions on the recommendation of the European Commission.² Finally, the debt criterion was given a greater emphasis in the fiscal framework (Stability and Growth Pact) and was fleshed out.

Methodology, compilation and development in Germany

In Germany, the Bundesbank is responsible for compiling the Maastricht debt data and the Federal Statistical Office for compiling the Maastricht deficit data as well as for the relevant definition of the government sector. This article describes the methodological principles as well as the precise compilation of Maastricht debt by the Bundesbank and explains the differences compared to the results of the national debt statistics. In addition, it explains the Maastricht debt data, which are available from 1991.

Methodological principles

The Maastricht debt data is compiled based on the European System of Accounts (ESA). These rules largely follow the standards of the global System of National Accounts (SNA),³ which is revised and updated with the collaboration of international organisations and national statistics agencies. The current version of the European framework (ESA 2010),⁴ which was drawn up by Eurostat and the national statistical offices to primarily reflect European needs, sets out how economic activities in the EU are to be statistically recorded in the national accounts. Questions of interpretation relating to the compilation of the Maastricht reference values are also answered by a comprehensive and regularly updated manual (MGDD).⁵ Additional binding rules are found in Eurostat's guidelines, clarifications and technical compilation guides for specific cases. Each member state releases an extensive inventory of the methods, procedures and sources used to explain exactly how the European requirements are implemented on the basis of the national data resources available to them.⁶ Given the vast number of detailed rules and specificities surrounding implementation, this article focuses on the most substantial factors and interrelationships.

Maastricht debt is based on ESA 2010 and additional requirements

¹ See Deutsche Bundesbank, Design and implementation of the European fiscal rules, Monthly Report, June 2017, pp 29-44.

² The size of these sanctions hinges on the misconduct with which the party is charged as well as the extent of the misreporting and can be as much as 0.2% of GDP. In Germany, 0.2% of GDP currently equals €6½ billion.

³ The current version, SNA 2008, was issued by the European Commission, the International Monetary Fund, the Organisation for Economic Co-operation and Development, the United Nations and the World Bank.

⁴ Regulation (EU) No 549/2013.

⁵ Manual on Government Deficit and Debt, latest edition 2016, available at: <http://ec.europa.eu/eurostat/en/web/products-manuals-and-guidelines/-/KS-GQ-16-001>

⁶ Available at: <http://ec.europa.eu/eurostat/de/web/government-finance-statistics/excessive-deficit-procedure/edp-inventories>

Definition of the government sector

Government sector: core budgets and off-budget entities of central, state and local government and social security funds

According to the ESA, the general government sector comprises units that primarily engage in non-market production and that are financed mostly by compulsory levies, as well as those that principally redistribute income and wealth. In Germany, a distinction is made between the subsectors of central, state and local government (including its associations, such as district authorities) and the social security funds, which in turn are divided into core budgets and off-budget entities. The off-budget entities include all funds, agencies and undertakings that are spun off from the core budgets or newly established and which largely perform government functions, regardless of their legal form.⁷

Off-budget entities are government-controlled units engaged mainly in non-market production

It is often difficult to make an economic distinction between government and corporate activity. Besides the government's core budgets, there are a multitude of entities that are organised as businesses and are influenced and financed by government to varying degrees. According to the ESA, entities such as these only belong to the government sector if government has direct or indirect control over the set-up of their core business and they engage principally in non-market production.⁸ The latter is mostly defined in terms of the entity not covering more than half of its production costs (including interest and depreciation of fixed assets) by market sales.⁹ If market activity predominates, the entity is not assigned to the government sector. Hence, general government can in fact be the majority owner of entities engaged in corporate activity which do not belong to the government sector because they lack key characteristics of government activity.¹⁰ Maastricht debt captures liabilities of the general government sector as thus defined.¹¹

Definition of Maastricht debt

Maastricht debt comprises the consolidated gross debt of general government. "Gross" means that no government assets are offset when calculating the debt level. "Consolidated" means that government liabilities to other government entities are eliminated. The Maastricht debt level thus represents the government's debt to other domestic sectors and foreign creditors.

Maastricht debt constitutes a consolidated gross figure and ...

Maastricht debt does not include all financial liabilities of a government. Of the eight categories of financial assets (ESA code: AF¹²) between which the ESA distinguishes, only three make up Maastricht debt (the liability items

... includes liabilities arising from currency and deposits, loans and securities

⁷ Off-budget entities can also be formed by acquiring participating interests, provided the acquired entity mainly performs government activities. The current list of off-budget entities is published by the Federal Statistical Office, available at: https://destatis.de/DE/ZahlenFakten/GesellschaftStaat/OeffentlicheFinanzenSteuern/OeffentlicheFinanzen/Methoden/Downloads/ListeExtrahaushalte2017_pdf.pdf?__blob=publicationFile

⁸ The public sector is defined more broadly than the government sector, and also contains entities majority-owned by government that are predominantly engaged in market production. It includes, for instance, promotional and development banks, savings banks and Landesbanken, but often also entities such as public utilities and waste management operations.

⁹ This criterion applies to non-financial corporations. In the case of financial corporations (such as banks), the crucial factor is whether they act as a financial intermediary and are themselves exposed to the risks posed by their business or whether these risks lie with the government instead.

¹⁰ A more detailed account can be found in P Schmidt et al, Die Abgrenzung des Staatssektors in den Volkswirtschaftlichen Gesamtrechnungen, Wirtschaft und Statistik, 1/2017, pp 35 ff.

¹¹ A debt indicator based on the public sector would also contain the liabilities of all enterprises majority-owned by government. However, this would mean the inclusion of market producers whose liabilities are not under the control of policymakers. Notwithstanding this, the ESA allows for individual activities of non-government entities to be rerouted through government for statistical purposes, provided the tasks can be clearly demarcated as government activities within an entity assigned to another sector. A typical example of this would be the specifically assigned business activities ("Zuweisungsgeschäfte") of the Reconstruction Loan Corporation (Kreditanstalt für Wiederaufbau), the German Federal development bank which is not part of the government sector. These are conducted on behalf of central government, with the Federal budget assuming the respective costs and risks.

¹² The abbreviation for financial assets (AF: actif financier) is used for both asset and liability items.

AF.2, AF.3 and AF.4).¹³ This restriction exists in part because not all government liabilities are considered relevant in the context of EU budgetary surveillance, and partly also because of practical measurement aspects and problems with data availability. Specifically, the ESA distinguishes between the following items.

- “Monetary gold and special drawing rights (AF.1)” are normally recorded in central bank balance sheets only. Central banks do not belong to the general government sector according to the ESA.
- “Currency and deposits (AF.2)” form part of Maastricht debt. They include, for example, deposits of third parties held in custody accounts with the central government and liabilities arising from coins in circulation, which are attributed to central government as the issuer of German euro coins. By contrast, banknotes are solely a central bank liability.
- “Debt securities (AF.3)” form part of Maastricht debt. A distinction is made between “short-term debt securities (AF.31)” (money market paper) with an original maturity of no more than one year and “long-term debt securities (AF.32)” (capital market paper) with an original maturity of more than one year. These include, for example, bonds issued by central government or securitised liabilities of winding-up agencies (“bad banks”) within the government sector.
- “Loans (AF.4)” form part of Maastricht debt. These also include, for example, bank loans granted to local government enterprises, which, as non-market producers, count as off-budget entities in the government sector. Like debt securities, loans are differentiated by their original maturity and split into “short-term loans (AF.41)” and “long-term loans (AF.42)”. Government cash advances are classified as short-term loans, even though in some cases at the local government level they are evidently arranged with

longer maturities. Furthermore, cash collateral received as part of derivatives transactions also counts toward loan liabilities.

- “Equity and investment fund shares or units (AF.5)” are equity instruments and therefore do not form part of Maastricht debt.
- Claims against “insurance, pension and standardised guarantee schemes (AF.6)” do not form part of Maastricht debt. They comprise prospective liabilities already accrued but not yet due, the size of which is sometimes still undetermined, arising from funded government pension schemes and from standardised guarantee schemes. Neither play a role in Germany at the moment, as the items of particular relevance in Germany – claims on unfunded pension schemes of government employers (pensions) and on the statutory pension insurance scheme – are not recorded under AF.6.¹⁴ They do not fall under any other ESA instrument category either; instead, they are simply recorded as memo items.¹⁵
- “Financial derivatives and employee stock options (AF.7)” do not form part of Maastricht debt. They include, for example, interest rate swaps which are used for debt management, particularly to manage interest rate fixation periods and any currency risk.

¹³ Nonetheless, according to Council Regulation (EC) No 479/2009 and Regulation (EU) No 549/2013 all categories named in the ESA, particularly trade payables, are required.

¹⁴ Civil servant pension entitlements, for which a capital stock is built up in funds or reserves, are not recorded in AF.6 either, since the system as a whole is not considered to be a funded scheme. The Federal Statistical Office has performed extensive calculations of the claims of households on pension schemes. Preliminary results can be found in T Haug, *Berechnung der Pensions- und Rentenanwartschaften in den Volkswirtschaftlichen Gesamtrechnungen*, *Wirtschaft und Statistik*, 2/2018, pp 77 ff.

¹⁵ In view of demographic change, in particular, it is important that these government burdens are also taken into account when analysing fiscal sustainability. However, the reported size of the liabilities is heavily dependent on assumptions about discount factors, for example, and long-term developments in demographics and the labour market. Furthermore, future burdens on government budgets are influenced by legislative changes (such as an increase in the retirement age).

However, derivatives can also be designed such that the government counterparty initially receives additional compensation which it rebalances over the life of the instrument. The derivative thus entails a *de facto* loan relationship. To take this situation into account, loan components such as this are now eliminated from the derivatives and added to the loan portion of Maastricht debt (AF.4).

- “Other accounts receivable/payable (AF.8)” are “trade credits and advances” and “other accounts receivable/payable, excluding trade credits and advances”, and do not form part of Maastricht debt. The former are created by the time lag between the performance of an agreed transaction and the corresponding payment. The latter arise due to timing differences between distributive transactions (eg in the case of court rulings on tax refunds) or financial transactions in the secondary market and the actual payment. As a general rule, AF.8 should only contain short-term, largely unavoidable items of a small size.¹⁶ For these reasons, and owing to poor data availability, this item was not included in the Maastricht definition of debt. However, the financial and sovereign debt crisis revealed that unpaid invoices, for example, can become a very relevant substitute for normal financing in the capital market.¹⁷ Since 2012, trade credits incurred by government have therefore been considered relevant to the loan portion (AF.4) of Maastricht debt in two specific cases: when key terms of the contract are renegotiated and when the creditor transfers its claim to a third party without recourse.¹⁸ Neither of these applications has so far played a role in Germany, however. Germany has a basic problem capturing other accounts receivable/payable (AF.8) because the single-entry bookkeeping method is still very widespread among government entities.

Contingent liabilities, such as guarantees and sureties as well as provisions, are not liabilities

as recorded in the ESA accounts and therefore are not a component of Maastricht debt.¹⁹ However, the ESA does permit exceptions to this rule. For example, new government guarantees on liabilities of non-government entities, where it is deemed very probable that they will be called, are recorded as though they had already been called.²⁰ A guaranteed liability of this kind is therefore counted towards Maastricht debt.²¹

Contingent liabilities to be recorded as Maastricht debt in exceptional cases

Valuation of the debt components

Aside from the question of which categories have to be included in Maastricht debt, the issue of how each of them are valued also has to be clarified. The ESA stipulates that currency and deposits as well as loans are recorded at their nominal value²² and securities at market value. Because the ESA is a national system of accounts, in which the creditors’ claims must match the debtors’ liabilities, these valuations

Maastricht debt is recorded at face value

¹⁶ According to ESA 10 (20.132), government financing presented as long-term trade credits is classified as loans (AF.4). The MGDD (VIII.2.1 (3)) specifies long-term as meaning an original maturity of more than one year.

¹⁷ In Italy, for example, unpaid government invoices amounted to 4% of GDP between 2010 and 2012. See Note on stock of liabilities of trade credits and advances (October 2014), <http://ec.europa.eu/eurostat/documents/1015035/2022675/Note-on-AF-81L-Oct2014.pdf>

¹⁸ See The statistical recording of some operations related to trade credits incurred by government units (July 2012), <http://ec.europa.eu/eurostat/documents/1015035/2041337/Statist-record-of-some-operations-rel-to-trade-credits-i.pdf/f2238d11-9257-4a0e-bd9a-39dcf1fb2cfd>

¹⁹ However, information about government contingent liabilities has to be provided on the basis of Council Directive 2011/85/EU (EU Budgetary Frameworks Directive), amongst other legislation.

²⁰ A corresponding expense is recorded in the Maastricht deficit. In the government budgets, authorisations for expenditure and future commitments have to be given for such guarantees.

²¹ The other case of contingent liabilities having to be recorded pursuant to the ESA relates to standardised guarantees (such as those for export financing) for which the available data allow for a reliable estimation of the probable number of calls under the guarantee, such that the insurance technical reserves can be recorded properly. However, these guarantees are recorded in AF.6 and therefore do not form part of Maastricht debt.

²² Nominal value equals face value plus accrued interest and any issue premiums or discounts (to be spread over the life of the instrument).

are applicable for both assets and liabilities. Debt as defined by the Maastricht Treaty departs from this, however, in that the three liability items included (AF.2 to AF.4) are recognised at face value.²³

Face value normally equals a debt's repayment amount

The face value of a government debt is equal to its principal, which is the originally agreed repayment amount less any repayments already made (redemptions). In the case of indexed liabilities (eg inflation-linked bonds), the face value also encompasses the change in the repayment amount caused by past index movements. Interest payments on the principal are only included in the face value if they were explicitly credited.²⁴ In the case of securities, the issue price often differs from the face value on account of pricing in the auction process.²⁵ Premiums or discounts on the issue are spread over the residual maturity of the security and recorded in the fiscal balance as interest costs/savings in addition to the coupons.²⁶ As the face value is not marked to market, it is unaffected by market forces. Debt instruments issued in foreign currency are one exception. These are converted at the relevant exchange rate on the reporting date and change the level of Maastricht debt accordingly, in the absence of any compensatory exchange rate hedging transactions, such as currency swaps (otherwise, the hedged rate should be recognised).

Compilation of Germany's Maastricht debt

Biannual notification of Maastricht debt as part of fiscal surveillance

As part of European fiscal surveillance, Maastricht debt is to be reported to the European Commission (Eurostat). To do this, current values for the four previous year-end levels are reported twice each year – in the spring notification at the end of March and the autumn notification at the end of September.²⁷ Furthermore, there are obligations at the European level to provide quarterly Maastricht debt four times per year.²⁸

The annual debt statistics²⁹ and annual financial asset stock statistics³⁰ form the essential framework for the data to be reported. These official statistics are captured by the Federal Statistical Office in cooperation with the state statistical offices on the basis of the German Law on the Statistics of Public Finance and Public Service Personnel (*Gesetz über die Statistiken der öffentlichen Finanzen und des Personals im*

Other sources required in addition to official national debt statistics ...

²³ See Article 1 (5) sentence 3 of Council Regulation (EC) No 479/2009. These different valuation methods from those in the ESA are the reason why debt as defined by the Maastricht Treaty does not equal the sum of the three liability items recorded in the national accounts (financial accounts).

²⁴ For accrued interest bonds, such as Type B Federal savings notes, where all interest claims are added to the principal over the fixed lifetime of the instrument, the face value is equal only to the principal agreed upon issue.

²⁵ In principle, premiums and discounts are also possible for loans.

²⁶ Premiums or discounts occur when a security's coupon differs from the market interest rate prevailing at the time of issuance. This is often the case for tap issues, in particular. However, the issuer is also able to charge premiums for the initial issue by offering coupons higher than the market interest rate. This equals a de facto higher liability, which is not reflected in Maastricht debt. Subsequently, there is also certain room for manoeuvre over time owing to the option of choosing between a new issue at market rates or a tap issuance of a previous issue with higher coupons. In addition, securities without a coupon also have premiums when effective interest rates are negative. See Deutsche Bundesbank, The development of government interest expenditure in Germany and other euro area countries, Monthly Report, July 2017, pp 33-68.

²⁷ Within the context of the notification, Eurostat reviews the data and comprehensive questionnaires are to be completed. To the same end, Eurostat also conducts what are known as "dialogue visits" in EU member states at two-year intervals. During these visits, methodological problems in particular are discussed with the relevant statistical authorities. Eurostat subsequently draws up what are known as "action points" to resolve any outstanding issues. Summaries of mission findings and lists of action points are published on the Eurostat website: <http://ec.europa.eu/eurostat/web/government-finance-statistics/excessive-deficit-procedure/eurostat-edp-visits-to-member-states>

²⁸ Unless otherwise stated, the following remarks relate to the autumn notification.

²⁹ Federal Statistical Office annual debt statistics, Fachserie 14, Reihe 5. In the context of the spring notification, these are not yet available for the current reporting year. The (preliminary) quarterly debt statistics from the Federal Statistical Office (Fachserie 14, Reihe 5.2) have therefore been used at this time.

³⁰ Federal Statistical Office annual financial asset stock statistics, Fachserie 14, Reihe 5.1. For the spring notification for the current reporting year, the financial asset stock statistics are not yet available. For this reason, the values from the previous year have been used in most cases – unchanged – as a provisional measure.

öffentlichen Dienst).³¹ The European statistical requirements have not been fully transposed into accounting practices and cash-related public finance statistics in Germany. For this reason, Maastricht debt is compiled using additional sources.

... in order to capture all liabilities as well as consolidation and "bad banks"

First, liabilities that are not included in the debt statistics but are to be factored into government debt in accordance with ESA are to be captured. Second, the national debt statistics only provide part of the data necessary for consolidating intra-governmental debt relationships. Third, financial assets and liabilities in the balance sheet context are required in particular for state-owned "bad banks" due to their significant financial assets. These informational requirements are, where possible, covered by additional statistics on creditors (counterparties), special statistical surveys, as well as various individual sources. In individual cases, estimates are made to fill gaps in the data.

Calculation of Maastricht debt from national debt statistics

A schematic illustration of how Maastricht debt is compiled is shown in the table on page 70. Based on the debt of core budget and off-budget entities owed to the non-public sector³² according to the national debt statistics, mainly the additions³³ described above are depicted. This reconciliation between the national debt statistics and Maastricht debt is explained in more detail below.

Adjustments due to differing methodologies and delineations as well as missing data

Additions due to devolved transactions

In order to compile Maastricht debt, additions with regard to official cash-related finance statistics are necessary, as ESA allocates additional liabilities to general government in order to better depict economic reality.³⁴ Currently, the most significant additional position is liabilities from lending via the European Financial Stability Facility (EFSF) to euro area members during the sovereign debt crisis. Furthermore, certain liabilities of the Reconstruction Loan Corpor-

ation (Kreditanstalt für Wiederaufbau, KfW) that are based on transactions directly attributable to central government are also added to the government accounts. In this vein, KfW was instructed to issue loans to Greece, to take on shares in Deutsche Post and Deutsche Telekom from central government as part of their privatisations (known as specific holding arrangements), and to acquire EADS shares. The risk and net income of these operations is borne by central government. Such transactions that are to be rerouted to the government sector also occur at a number of state promotional banks, albeit at a considerably lower volume than the KfW transactions.³⁵

As of 2000, issuance of student loans under the Federal Act on the Promotion of Education (*Bundesausbildungsförderungsgesetz*) is no longer captured in the Federal budget.³⁶ Up to and including the 2012 reporting year, the

Addition of student grants and loans

³¹ For the core budget of the Federal Government and its special Investment and Repayment Fund (IRF) as well as its Financial Market Stabilisation Fund (FMS), whose debt is managed by the Federal Republic of Germany – Finance Agency GmbH (Finance Agency), consistent evaluations from the Finance Agency, which are available earlier, are used for the debt statistics.

³² See Federal Statistical Office, Fachserie 14, Reihe 5, Tabellenblatt 2.1. Also included under "Debt in the non-public sector" are debts to public credit institutions, such as savings banks or promotional banks, as well as government securities-based debt in its entirety, as the parties subject to reporting requirements do not know whether the holders are governmental or non-governmental creditors. Credit-equivalent legal transactions that are also accounted for in the debt statistics, such as financial leasing, are to be added. Since these are not captured in the (preliminary) quarterly debt statistics, the values from the previous year as used for the current reporting year in the spring notification.

³³ Alongside those described below, other, less significant additions and adjustments – which are not explained in greater detail here – are necessary. An in-depth description of the methodology is available online: <http://ec.europa.eu/eurostat/web/government-finance-statistics/excessive-deficit-procedure/edp-inventories>

³⁴ See also footnote 11 on p 59.

³⁵ Since 2016, rerouting transactions have been captured by the Federal Statistical Office via a special survey among promotional banks. The liabilities arising from these transactions are factored into Maastricht debt, by assumption, as long-term loans.

³⁶ The Federal budget only shows grants on interest relief provided to KfW and refunds for loan defaults, but not the issued loans and the associated incurrence of liabilities by central government, which would in fact be more appropriate. By contrast, these are captured in central government's wealth accounts, although not explicitly.

financing provided to central government by KfW in this context is to be added separately to Maastricht debt. Since 2013, these transactions have been factored into the official debt statistics and are included in Maastricht debt in that way.³⁷

Euro coins issued by central government

A major liability that is not captured in the debt statistics, and therefore must be added, is euro coins in circulation as legal tender. Legally, German euro coins are issued by the German Federal Government (and not by the Eurosystem, though the European Central Bank is required to approve the volume). Thus, central government is partly financed through the issuance of coins, which – as is the case with Federal securities – represent a claim against it.³⁸ The coin-related liability is captured in Maastricht debt as “currency and deposits”.

Separate recording of certain suspense and advance payment accounts

Also included in the “currency and deposits” category are liabilities arising from funds or similar third-party claims that are fundamentally retrievable and recorded on purely ledger-based accounts of central government, known as suspense and advance payment accounts.³⁹ For example, central government credits the German share of EU own resources to a suspense account for accounting purposes until the EU draws on the funds via a money order. At times, the EU also transfers funds back. This leads to a recording entry on the suspense account, which then functions as a kind of money market account for the EU at the German Federal Government and therefore is to be factored into Maastricht debt. With the exception of the account for cash collateral received from derivative transactions, suspense and advance payment accounts are not captured in the debt statistics. Since these accounts are not generally factored into public budget accounting, they must be added via separate reports as and when necessary. As a result of non-integrated accounting, not all assets and liabilities can be obtained in a consistent balance sheet context from a central accounting system, which would be desirable.⁴⁰

Debts from public-private partnerships (PPPs) are to be recorded in the Maastricht debt if the risks are largely borne by general government. In the national accounts context, the Federal Statistical Office makes use of data from a spe-

Model-based recording of PPPs

37 In order to identify potential similar cases, a systematic inquiry was carried out amongst other government sectors as well. Through the inquiry, needs for corrections were identified in some Federal states, which, on the one hand, concerned cash collateral received from financial derivative transactions that are to be captured as short-term loan liabilities, and, on the other hand – albeit to a more limited extent – liabilities arising from advance financing of student grants and loans by KfW. As of the 2013 reporting year, these positions are now added to Maastricht debt on the basis of individual data reports. This is an example of the difficulties that can arise particularly from non-integrated public accounting systems, which do not fully guarantee adherence to the principle of gross recording and do not ensure a relationship between assets and liabilities.

38 The Bundesbank is responsible for issuance and withdrawal, and, at the same time, is creditor vis-à-vis central government as well as debtor vis-à-vis holders of euro coins in the national accounts. Central government is credited the nominal value of each euro coin brought into circulation (increase in coins in circulation) and debited the nominal value of coins withdrawn from circulation (decrease in coins in circulation) by the Bundesbank. In addition, the Bundesbank credits its coin holdings to central government up to an amount of 10% of coins in circulation (Article 6 of EU Council Regulation (EC) No 3603/93). With regard to return flows or recirculation of euro coins, no distinction is made between German euro coins and those from other member states. Collectors’ coins issued by central government, which are not usually used for payments, are not recorded in the euro coins in circulation as per ESA.

39 These are generally suspense accounts. However, custodies on central government advance payment accounts also occur, for example for cash collateral received from derivatives transactions. Counter-entries on suspense accounts are made for payments received from third parties if these are not to be allocated, or are not yet allocated, to a budgetary item. They are not relevant for Maastricht debt if, for example, they constitute other accounts payable (AF.8) under ESA, which are not included within the scope of Maastricht debt. The same is true if a budgetary expense is recorded as a liability on a suspense account, as long as payment has not yet been made. No central systematic overviews are available for the suspense and advance payment accounts. Instead, recording for Maastricht debt is based on a compilation of accounts which are operated decentrally by the individual account managers.

40 In its audit of the national debt statistics, the Federal Court of Auditors (Bundesrechnungshof, or BRH) has criticised the inconsistent treatment of suspense and advance payment accounts (see BRH, Prüfungsmittteilung – Statistik der Schulden der öffentlichen Haushalte of 10 December 2015).

On the differences between deficit and change in debt (deficit-debt adjustments)

In principle, a close relationship exists between the Maastricht fiscal balance¹ (the government deficit or surplus) and the change in Maastricht debt. Deficits are usually financed by additional debt and surpluses are used to repay debt. Nevertheless, the change in debt often deviates from the fiscal balance. This difference is referred to as a “deficit-debt adjustment” (DDA).² Although most of the DDA can be explained, statistical discrepancies remain which point to inconsistencies in the underlying data.

General government fiscal balance: reflected in both the government non-financial accounts and the government financial accounts

In the context of the national accounts (NA), double-entry bookkeeping is carried out – as is customary in businesses – which means that each transaction is booked twice in one statistical unit. Most of the government transactions relate to both the government non-financial accounts and the government financial accounts.

Government revenue and expenditure are recorded in the government non-financial accounts as resources (eg tax revenue) or as uses (eg personnel expenditure).³ Financial transactions, ie transactions involving financial assets or liabilities, are recorded in the government financial accounts. These often stand in relation to the revenue and expenditure in the government non-financial accounts. For example, the tax revenue recorded in the non-financial accounts may be associated with higher financial assets (eg an increase in government bank deposits) in the financial accounts, whereas personnel expenditure is associated with

payments by government, which reduce the (net) financial assets. The fiscal balance is reflected both in the difference between revenue and expenditure in the non-financial accounts and in the balance of financial transactions in the financial accounts.⁴ Shifts within net financial assets (purely financial transactions) are reflected only in the financial accounts, where they offset each other; they therefore have no impact on the amount of the fiscal balance. For instance, the purchase of shares in the market using bank deposits merely constitutes a change in the composition of financial assets, and the repayment of a loan by reducing bank deposits is likewise a balance sheet reduction that does not affect the fiscal balance.

Explained deficit-debt adjustments

Depending on how a deficit is financed or a surplus is used, or in the event of shifts within the composition of net financial assets, the change in Maastricht debt may deviate from the fiscal balance (DDA). For example, if a surplus leads to an increase in bank deposits, financial assets rise while gross debt, against which assets are not netted, remains unchanged. In this case,

¹ Also referred to as “net lending/net borrowing”.

² The difference is sometimes also referred to as a “stock-flow adjustment”.

³ Revenue and expenditure do not include the sale or purchase of financial assets, which are purely financial transactions and so merely constitute shifts within the financial accounts. The amount of, and the time of recording of transactions in the non-financial accounts are not necessarily in line with the corresponding cash flow. Instead, it is often enough for a claim or a liability to arise for a transaction to be recorded in the reporting period.

⁴ Thus, the fiscal balance corresponds to the transaction-based change in net stocks of financial assets. Moreover, net financial assets may change for reasons that are not transaction-based, for instance as a result of revaluations (eg an increase in share values).

the deficit and the changes in debt do not develop synchronously (positive DDA).⁵ Moreover, a deficit may be financed using financial liabilities, which are not included in Maastricht debt. For example, if short payment terms are used for purchases of goods and services, liabilities in the form of trade credits (AF.8) arise, which are not included in Maastricht debt (negative DDA). In addition, shifts within the composition of net financial assets (purely financial transactions) can give rise to DDAs, for example if available cash reserves are used to repay debt. This leads to a balance sheet reduction and debt declines without the shift producing a change in the fiscal balance (negative DDA).⁶ On the other hand, a balance sheet extension occurs, for instance, when advance payments are made for which purpose loans are taken out, but the expenditure is only attributable in economic terms to the following year's budget. Advance payments already financed at the end of the year lead, on that reporting date, to higher government debt accompanied by higher other accounts receivable (AF.8) on the asset side (positive DDA). When the expenditure is recorded in the government non-financial accounts in the following year, the other accounts receivable that were built up at the end of the previous year (given an unchanged Maastricht debt) are reduced (negative DDA).⁷

In addition to such transaction-based causes, reclassifications or valuation effects can also give rise to DDAs. These are not reflected in the fiscal balance as, according to the ESA, the fiscal balance comprises only transactions which are conducted by mutual agreement between the parties concerned or are based on a legal obligation substantiated by the government. If statistical units are added to or removed from the general government sector (reclassification), this usually leads to a change in debt but not in the fiscal balance of general

government sector. DDAs stemming from valuation effects can arise, for example, as a result of exchange rate fluctuations when foreign currency debt is not hedged, as the amount of debt converted into euro changes without a transaction affecting the fiscal balance.

Unexplained statistical discrepancies

Moreover, differences can arise between the fiscal balance and the change in debt that cannot be traced back to specifically identified DDAs. Such cases are referred to as "statistical discrepancies". These are attributable to the fact that the government non-financial accounts and the financial accounts are not based on a fully integrated accounting system as a single statistical basis. Instead, to determine stocks and flows, different basic statistics must be used which may not always be compatible with the ESA or consistent with each other. For this reason, the implementation of these data in the financial and non-financial government accounts can cause non-financial transactions, financial transactions or stock

⁵ DDAs are positive if the increase in debt exceeds the deficit or if the decrease in debt falls short of the surplus. The opposite is true in the case of negative DDAs. Positive DDAs are generally due to an increase in financial assets and negative DDAs to a reduction of financial assets.

⁶ This also applies when privatisation proceeds from the sale of shares are used to repay debt. The credit-financed purchase of financial assets at market price, for example in the context of a resolution agency ("bad bank"), on the other hand, leads to a positive DDA. Although gross debt rises, the financial assets rise at the same time, leaving the fiscal balance unchanged. However, the fiscal balance falls if financial assets are bought at a price above their market value, or, alternatively, above an independent market value estimate. In such a case, the debt increases more strongly than the financial assets. This gap describes a capital transfer from general government to the previous owner which is recorded in the non-financial government accounts, impacting on the deficit. No DDA therefore arises for this amount.

⁷ Maastricht debt is calculated as at a given reporting date, whereas the fiscal year for many budgetary items has not yet ended by that point in time. Deviations between the fiscal balance and the change in debt are therefore to be expected.

variables (such as the debt) to be incorrectly reported. Discrepancies can arise because, for instance, coverage in a set of basic statistics is incomplete (data gaps), different statistics use diverging definitions or different data sources overlap, leading to double counting. Similarly, reporting entities might classify counterparties under incorrect sectors or make erroneous entries in their statistical reports. In this respect, statistical discrepancies may result in the fiscal balance, the change in debt and/or the identified DDAs being incorrect. As DDAs forge a link between the deficit and debt, Eurostat uses them as a quality control instrument. Persistently high statistical discrepancies can point to data quality issues, potentially also in terms of the Maastricht criteria. This makes it especially important that they are analysed in the context of European budgetary surveillance. For example, in Greece in 2004, high discrepancies with sharply rising government debt on the one hand and comparatively low reported deficits on the other indicated quality issues with the Greek government finance statistics, the full extent of which then became apparent as the financial and economic crisis unfolded.

Deficit-debt adjustments in Germany

Germany faces particular challenges due to its federal structure. Many government entities are not included in budgetary plans and a number of heterogeneous public accounting systems exist which, for the most part, are not integrated. In terms of the European requirements, necessary data cannot always be readily extracted from the existing systems. The statistics of government revenue and expenditure (relevant for calculating the deficit) as well as the debt statistics do, in principle, have a long tradition and are therefore firmly anchored at the reporting government entities. However, the European obligations, which have been extended and expanded upon over

time, partly deviate from the traditional national transmission programme.

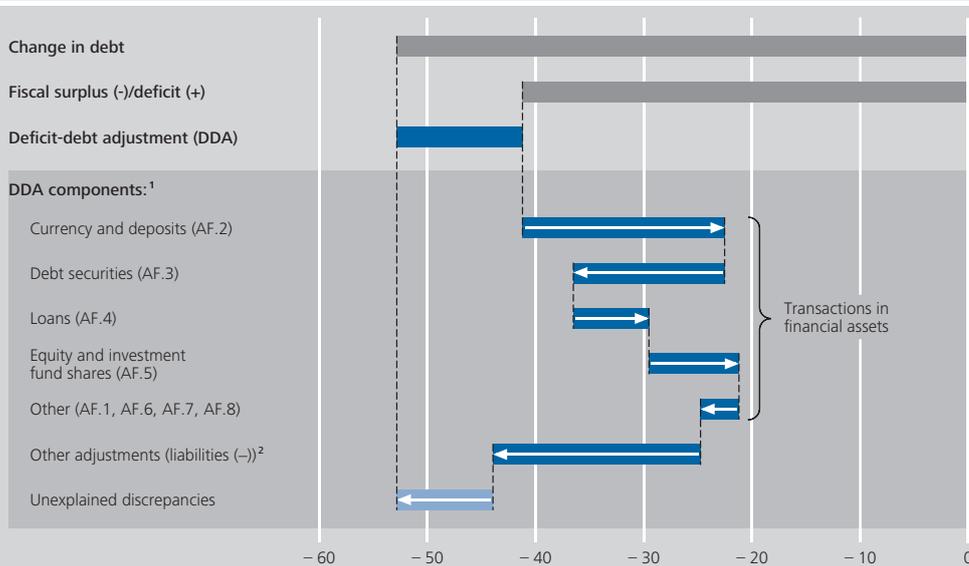
As a result, problems in the consolidation of financial relations within the general government sector arise, for example. It would be necessary here to make a clear distinction in the accounting systems and therefore in the statistics between transactions carried out with units of the general government sector, with public corporations or with private entities.⁸ Although section 49a of the Budget Principles Act (*Haushaltsgrundsätze-gesetz*) stipulates that the accounting standards used by central and state government should also take the requirements of the NA into consideration, the existing general government (and local) budgetary classification systems and accounting frameworks only partially guarantee this.⁹ Additionally, certain transactions in financial assets have to be derived from secondary data sources, such as banking statistics, and thus indirectly from statistical reports submitted by the government's counterparties, since the prevailing single-entry accounting system does not record financial assets in a full and integrated manner. In this context, consistencies may crop up, the causes of which can ultimately only be identified to a limited extent.

⁸ A particular challenge arises from the fact that the sector classification of government entities is reviewed annually, resulting in possible changes in the allocation of transactions to government and non-government counterparties in public accounting. Sometimes, several hundred units change sector in one year. To ensure that transactions are correctly recorded in the statistics at all times, it would have to be possible to keep track of the sector classification of transaction counterparties automatically using a uniform identification code. For more on the consolidation of Germany's Maastricht debt, see pp 69-71.

⁹ In the past, Eurostat has also indicated that it may not always be ensured that account is taken of the requirements with regard to statistics; see Final findings – EDP dialogue visit to Germany, 25-26 February 2016, <http://ec.europa.eu/eurostat/documents/1015035/7756561/Final-findings-EDP-dialogue-visit-DE-25-26-Feb-2016.pdf>

Explanation of change in debt owing to fiscal surplus and deficit-debt adjustments in 2017

€ bn, data as at 23 April 2018



1 Positive DDA components are indicated by an arrow pointing to the right, negative components by an arrow pointing to the left. Thus, in 2017 there was an increase in financial assets in AF.2, a decrease in AF.3 etc. **2** These mainly include transactions in financial liabilities as well as adjustments due to the valuation of change in debt at face value. Central government received €24 bn from nuclear power plant operators in 2017 for the nuclear waste management services it will provide in future. This indemnity increased its deposits (assets) and other liabilities correspondingly. This transaction did not directly affect the debt or the fiscal balance, but was reflected solely in the aforementioned DDA components.

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With its proposal regarding the introduction of harmonised European public sector accounting standards (EPSAS), the European Commission aims to improve the quality of, and harmonise the underlying data basis for European budgetary surveillance. In a special report on this topic, the Federal Court of Auditors (*Bundesrechnungshof* or BRH) points out that the NA financial data should, in principle, come from public accounting systems.¹⁰ Moreover, if the required information is not contained there, it could, in the BRH's view, be derived from other sources.¹¹ But this is precisely what often proves to be very difficult in practice, and the Commission's proposal seeks, among other things, to take account of the fact that other sources are not always complete and of a suitable quality. Regardless of whether the EPSAS or another integrated system is introduced, the quality of statistics likely depends essentially on whether the required data can be directly obtained from the underlying accounts. In the event of a

system changeover, transition costs would arise, and preparing accounts would likely be time-consuming and prone to error for a transition period. Under the present circumstances, however, statistics needed to determine the fiscal balance, the debt and DDAs will be permanently fraught with similar problems.

The DDAs for general government in Germany in the last four years came to between -0.2% and +0.6% of GDP, the unexplained statistical discrepancies to between -0.1% and -0.3% of GDP. Overall, the latter are likely to be primarily the result of ambiguities in transactions in government financial assets based on heterogeneous and sometimes incoherent data sources.

¹⁰ See also Art 3 of Directive 2011/85/EU.

¹¹ See Bundesrechnungshof (2017), Special Report pursuant to Article 99 Federal Budget Code on the intended implementation of harmonised European Public Sector Accounting Standards (EPSAS) in the Member States of the European Union, p 4.

cial project database.⁴¹ As a result, all PPP projects and the associated liabilities derived from model-based compilations are captured in Maastricht debt.

Debts owed to the public sector and consolidation

Alongside liabilities to the non-public sector, the public finance statistics also record debt in

Local government debt relief programmes

Since the beginning of the decade, various German Federal states have launched large-scale debt relief programmes for their local governments. These programmes are set up in varying ways. In Hesse and Lower Saxony, restructured but not yet fully redeemed liabilities are no longer reported in the debt statistics.⁴² By assumption, they are added to Maastricht debt as long-term loan debt.

Loan components from derivative transactions

In addition, loan components from financial derivative transactions as well as their restructurings⁴³ are taken into account, although these play only a minor role in Germany. In this context, individual annual figures from the Federal Ministry of Finance and the state finance ministries are used.⁴⁴

Model-based back calculation for reclassifications

Finally, in addition to the aforementioned liabilities to be added, methodological and valuation adjustments also need to be made. The not insignificant number of reclassifications of entities into and out of the general government sector necessitates conversions and back calculations for previous years.⁴⁵ Since the public finance statistics are generally not revised, most of the calculations are based on estimates.⁴⁶

Capital indexation of inflation-linked securities and nominal value corrections of discount securities

In the case of inflation-linked securities, the regulations on compiling Maastricht debt require that the increase in liabilities resulting from inflation that has already been accrued must also be factored into Maastricht debt. In addition, a correction is made for the discount securities reported at issue price in the debt statistics, as Maastricht debt requires reporting at face value (nominal value correction).

41 The data in the project database originated from PD – Berater der öffentlichen Hand GmbH. This company was founded in 2008 by the Federal Ministry of Finance and what was at the time the Federal Ministry of Transport, Building and Urban Development to provide consultation to public contracting authorities in order to promote PPPs. In addition, data from the central and state government sectors are reconciled with the budget plans. Likewise, further information based on press releases and Internet research is taken into consideration. The debt statistics do also include liabilities from PPPs. However, only the project totals, and not the specific investment volumes in each individual period, are captured. The latter are necessary in order to capture the debt effect of the PPP during the construction phase. Moreover, there is a lack of data regarding the duration of the construction and utilisation phases in order to be able to model the accrual of debt and its gradual repayment. Since the 2016 reporting year, the debt statistics have captured, alongside PPPs, investment volumes for energy performance contracts (EPCs). As is the case for PPPs, the Federal Statistical Office models the influence of these on Maastricht debt.

42 In the case of the safety net for local governments in the state of Hesse, the state-owned Wirtschafts- und Infrastrukturbank Hessen (WI-Bank) has redeemed liabilities, with the state government rather than the respective local governments making repayments. The Lower Saxony debt relief fund provides debt service assistance for financially weak local governments, which sell on the resulting claims against the Norddeutsche Landesbank (NordLB) and use the income to repay their cash advances. The sale of these claims ultimately creates liabilities of the state government vis-à-vis NordLB.

43 Standard financial derivatives at market conditions (AF.7) are not part of Maastricht debt. However, if they are not standard or not at market conditions, resulting in the general government initially receiving payments from the counterparty that de facto need to be repaid during the term of the derivative, the financial derivative contains a loan component. This needs to be separated accordingly and captured as loan debt in Maastricht debt.

44 No information is available for local government, and no additions were made. However, at least in the past, complex financial derivative transactions were concluded to reduce interest expenditure (including in relation to the exchange rate against the Swiss franc).

45 Public entities are reclassified if they pass (reclassification out of the general government sector) or do not pass (reclassification into the general government sector) what is known as the quantitative market test (production cost coverage rate through sales higher than 50%).

46 Generally, the debt of non-financial entities for the past four reporting years is back estimated using these entities' national accounts deficits compiled by the Federal Statistical Office with the assumption of no DDAs (see also the box on pp 65-68). By contrast, back calculations for government holdings are currently based on the development of financial assets according to financial statement data.

Reconciliation of national debt statistics with Maastricht debt

€ million

Position	2012	2013	2014	2015	2016	2017
Debt in the non-public sector according to national debt statistics¹	2,070,268	2,045,466	2,046,010	2,022,602	2,007,487	1,967,329
Credit-equivalent legal transactions ²	1,978	2,122	2,092	1,898	1,846	1,846
Additions	110,121	122,844	128,384	127,416	129,112	124,416
EFSF rerouting	40,802	51,748	54,539	51,361	51,361	51,361
Rerouting of KfW transactions	38,841	38,197	37,260	37,159	36,892	35,771
Rerouting of state promotional bank transactions	10,685	12,579	12,286	11,535	10,305	10,183
Student loans (central government/individual states) and cash collateral (individual states) not otherwise captured in the debt statistics ³	5,333	1,820	3,212	3,496	3,961	1,713
Coins in circulation ⁴	7,686	7,998	8,335	8,732	9,071	9,418
Central government suspense accounts	332	1,197	2,628	4,501	5,763	4,267
Public-private partnerships and energy performance contracts	6,083	6,233	6,308	6,488	6,637	6,926
Local government debt relief programmes for the states of Hesse and Lower Saxony since 2013	.	2,566	3,166	3,499	3,889	3,745
Loan components of derivatives	360	507	650	644	1,233	1,032
Methodological adjustments	18,451	18,281	13,092	3,402	3,866	4,683
Back calculations for reclassifications ⁵	13,068	13,525	7,717	– 2,168	373	–
Capital indexation of inflation-linked securities and nominal value corrections of discount securities	5,384	4,755	5,375	5,570	3,493	4,683
Consolidation adjustments	– 5,757	– 4,012	– 5,716	– 4,381	– 3,460	– 5,670
Debt owed to non-financial, non-governmental public entities	4,164	5,884	5,788	7,304	8,715	7,691
Securities-based debt to be consolidated	– 9,922	– 9,896	– 11,504	– 11,685	– 12,175	– 13,360
Adjustments applied to government-owned bad banks	8,352	7,322	8,835	10,118	6,946	1,425
Other additions and corrections	873	594	1,399	2,618	1,522	460
Maastricht debt	2,202,307	2,190,496	2,192,004	2,161,775	2,145,473	2,092,643

1 Until 2016, Federal Statistical Office annual debt statistics, Fachserie 14, Reihe 5. For 2017, Federal Statistical Office quarterly debt statistics, Fachserie 14, Reihe 5.2. Includes credit-equivalent legal transactions from the annual debt statistics. 2 Value from the previous year also used for 2017. 3 Central government student loans added until 2012; captured in debt statistics thereafter. Cash collateral of various states added from 2013; no prior data available. 4 Excluding collectors' coins. 5 Reclassifications into (+) and out of (–) the general government sector. Back calculations for reclassifications from mid-2017 will be carried out as part of the 2018 autumn notification.

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Loan debt owed to public, but non-governmental entities

the public sector.⁴⁷ These figures comprise only loan debt owed to core budgets, on the one hand, and to public funds, institutions and enterprises, on the other. This second group of creditors, in turn, comprises not only government off-budget entities but also non-governmental other public funds, institutions and enterprises (OPFIEs⁴⁸). While loan debt owed to core budgets and off-budget entities does not form part of Maastricht debt due to consolidation, credit liabilities vis-à-vis non-governmental OPFIEs are included. However, since the debt statistics do not differentiate between off-budget entities and OPFIEs, the financial asset stock statistics are used as assis-

tance, as these record the loan debt of core budgets owed to off-budget entities in their loan portfolios.⁴⁹ Both sets of statistics are, however, only compatible to a limited extent, meaning that individual corrections and estimates are required. With regard to European

⁴⁷ See Federal Statistical Office, Fachserie 14, Reihe 5, Tabellenblatt 2.1. The debts of public institutions, such as savings banks or promotional banks, are, however, included under debt owed to the non-public sector.

⁴⁸ OPFIEs are considered public market producers; see footnote 8 on p 59.

⁴⁹ On the basis of the financial asset stock statistics, loan debt owed by off-budget entities to other off-budget entities cannot be separated from loan debt owed to OPFIEs. By assumption, it is therefore treated in its entirety as loan debt owed to OPFIEs and is not consolidated.

requirements, it would be appropriate here to fully implement the general government sector delineation in the public accounting system.

Consolidation of securities-based debt

Securities-based debt relations between government entities, which are reported under debts owed to the non-public sector in the debt statistics, are also to be consolidated.⁵⁰ Also used for this are the financial asset stock statistics, which report securities-based debt of core budgets owed to other government entities as the latter's securities holdings, and estimates are also necessary here in some cases.⁵¹

Adjustments related to support measures for banks

Adjustments with regard to "bad banks"

Maastricht debt also includes additions and adjustments related to government measures to support the financial market. First, the debt of Sealink Funding (the "bad bank" of the former SachsenLB) and Portigon (legal successor of the former WestLB) are taken into account, as these are, respectively, an institution domiciled abroad and a holder of a banking licence, and are not captured in the public finance statistics. Second, due to their significant financial assets, specific calculations based on individual figures are carried out for all state-owned "bad banks". These aim to ensure consistent compilations of both the debt as well as the financial assets in the balance sheet context, and are therefore used in place of the volumes reported in the debt statistics.⁵²

Developments in Germany's Maastricht debt since 1991

Data on Germany's Maastricht debt available from 1991

Figures for Germany's Maastricht debt are available dating back to 1991.⁵³ During this period, the debt ratio (as a percentage of GDP) rose from its initial level of 39% to reach 81% in 2010, before falling again perceptibly over the last few years to its current level of 64% (64.1%, or €2,093 billion, to be precise).

Developments during the 1990s were heavily influenced by the fallout from German reunification. Between the end of 1991 and the end of 1999, Germany's overall Maastricht debt doubled from €618 billion to €1,239 billion,⁵⁴ causing the debt ratio to rise to 60%. The increase in debt primarily took place at the central government level, with the impact being concentrated mainly on its special funds (off-budget entities). The German Unity Fund and the Debt Processing Fund were established in 1990 and were used, amongst other things, to fund the rebuilding of eastern Germany's economy, to assume liabilities from the state budget of the GDR, and to cover the burdens arising from the currency changeover in eastern Germany.⁵⁵ Both funds were classified as belong-

German reunification generated significant increases in debt until the end of the 1990s

⁵⁰ As the parties subject to reporting requirements are unable to disclose the holders of their securities-based debt, the debt statistics record all of these liabilities in a simplified manner as holdings owed to the non-public sector.

⁵¹ The securities-based debt between the core budgets and off-budget entities of central government are consolidated using individual figures. The financial asset stock statistics do not allow for consolidation of securities-based debt relationships between governmental off-budget entities, as government accounting practices do not entirely delineate the general government sector. Furthermore, the financial asset stock statistics for the current reporting year are not yet available for the spring notification. For the majority of the positions, projections are made based on the values from the previous year and the Bundesbank's securities holdings statistics.

⁵² Annual reports and notifications in the format of the Bundesbank monthly balance sheet statistics are used as a basis for this. The debts compiled on this basis deviate slightly from the liabilities reported within the debt statistics. This could be caused by differences regarding the timeliness of the booking status. The notifications from "bad banks" within the scope of the debt statistics also record accrued interest, which is not captured in Maastricht debt (report at face value, see pp 61-62).

⁵³ For the period from 1950 up to and including 1990, data for West Germany are only available as more narrowly defined in the national public finance statistics. The data presented in this section take into account any revisions (eg methodological changes) in the NA time series. Key figures may therefore differ from earlier data sets.

⁵⁴ Values in DM from the years before the euro was introduced have been converted into euro values at the official conversion rate (DM 1.95583 = EUR 1) here and in the rest of this article.

⁵⁵ Banks were granted equalisation claims via the Currency Conversion Equalisation Fund if their assets and liabilities were affected differently by the changeover to the Deutsche Mark. Corporate loans, for instance, were converted at a different rate to a certain proportion of bank deposits by households. To absorb losses, the fund was assigned claims vis-à-vis the GDR state budget, to which the Debt Processing Fund became the legal successor after German reunification.

ing to the general government sector (the debt of both entities stood at €40 billion at the end of 1991). By contrast, the Treuhand agency, which was established to facilitate the privatisation and restructuring of East German firms, was allocated to the corporate sector as its core business was considered to be a market-based activity. The considerable shortfalls arising from the privatisation of the former GDR state-owned enterprises, which had not originally been expected, led to the accumulation of substantial debts outside the government sector at first. In 1995, the debts accumulated by the Treuhand agency were finally transferred to the Redemption Fund for Inherited Liabilities, which, as a newly created special fund belonging to central government, was included in the government sector.⁵⁶ The debt assumptions, which were recorded in the national accounts as a capital transfer to the corporate sector with an impact on the deficit, amounted to a total of €122 billion (6½% of GDP) in 1995.⁵⁷

Equalisation claims and railway reform: increase in debt without impact on deficit

Until the mid-1990s, the increase in general government debt significantly outstripped deficits, which were already high. One of the main reasons for these (positive) deficit-debt adjustments (DDAs)⁵⁸ was that the equalisation claims allocated in connection with the currency changeover and the subsequent debt relief for enterprises capable of being privatised had no impact on the deficit in the period under review, but did increase the debt level (€33 billion, or 2% of GDP).⁵⁹ In addition, as a result of the railway reform and the creation of Deutsche Bahn AG in 1994, the liabilities of the Federal Railways and the East German Reichsbahn (€34 billion or 2% of GDP), both assigned to the corporate sector, were allocated to the newly established Federal Railways Fund, another central government off-budget entity. This was not reflected in the deficit either, but did lead to an increase in debt.

UMTS auction proceeds curbed rise in debt

In the second half of the 1990s, general government deficits then began to fall gradually and debt levels rose at a slower pace. In 2000, owing to the one-off proceeds of €51 billion

(2½% of GDP) received by general government from the auction of UMTS licences, a surplus was recorded for the first time since German reunification. However, this revenue only had a partial impact on the debt level at first. Instead, part of it was invested temporarily, and it was not used to limit the growth in debt until the following year. Repayments from the UMTS auction proceeds temporarily brought the debt ratio back down to 58% at the end of 2001.⁶⁰

Until the mid-2000s, large general government deficits then consistently continued to be recorded (and the 3% threshold was exceeded), meaning that debt rose more quickly and the 60% threshold was significantly exceeded as of 2003. However, the disposal of financial assets went some way towards slowing the rise in debt.⁶¹

From 2003, large deficits pushed debt ratio above 60%

⁵⁶ In addition, the Redemption Fund for Inherited Liabilities assumed the debts of the Debt Processing Fund, which was already classified in the general government sector, thereby dissolving it.

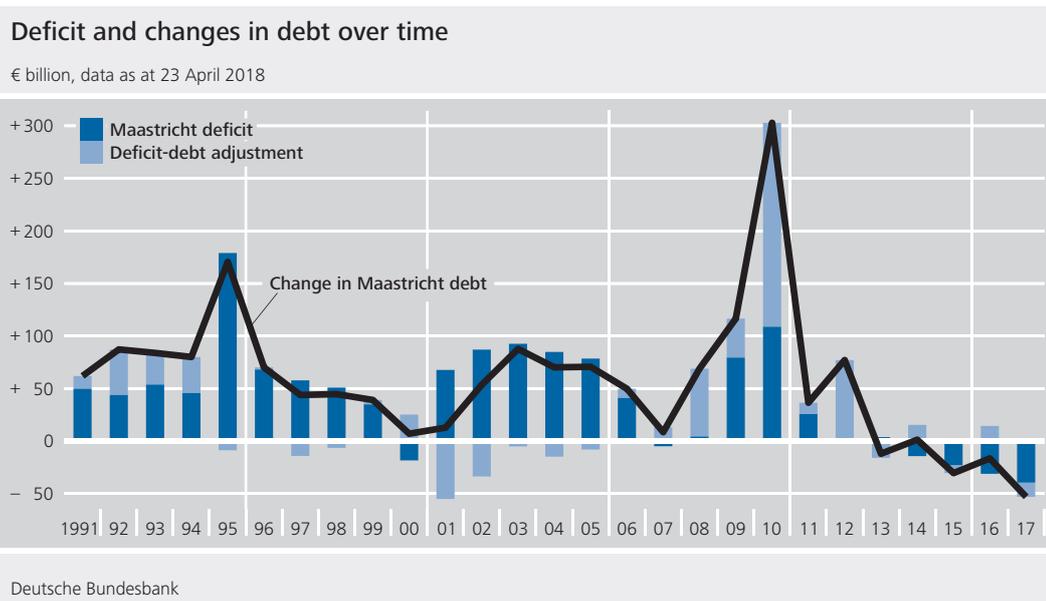
⁵⁷ At the beginning of 1995, the debts from the Treuhand agency assumed by the Redemption Fund for Inherited Liabilities amounted to €105 billion (excluding accrued interest). See: Deutsche Bundesbank, Trends in public sector debt since German unification, Monthly Report, March 1997, pp 17-31. Further capital transfers resulted from the assumption of the debts of East German housing enterprises. These were counterbalanced, to a lesser extent, by relief from capital transfers received through the assumption of the assets of Deutsche Kreditbank. However, these effects were not counted as increasing the deficit in the context of the excessive deficit procedure. The Maastricht deficit recorded in 1995 was therefore around €119 billion lower on balance than the NA figure.

⁵⁸ For an explanation of the DDA, see pp 65-68.

⁵⁹ See: Deutsche Bundesbank, The significance of subsidiary budgets in the context of German unification, Monthly Report, May 1993, pp 43-58, and Deutsche Bundesbank, Function and significance of the equalisation claims granted to east German banks and enterprises, Monthly Report, March 1996, pp 35-53.

⁶⁰ The rules governing how the proceeds from mobile phone licence auctions are to be recorded have recently been amended. The upcoming revision of the national accounts in summer 2019 will mean that proceeds are distributed over the lifetime of the frequency rights.

⁶¹ In several cases, shares owned by central government were transferred to KfW as part of holding arrangements. In this context, privatisation receipts were budgeted for, which prevented the borrowing limits from being breached in the budget planning process. However, since the autumn 2005 notification, these transactions have been classified as central government borrowing from KfW in the national accounts, since no economic transfer of ownership took place.



Economic growth and sharp decline in deficits reduced debt ratio prior to the financial crisis

From the middle of the last decade, absolute debt growth receded in light of a significant improvement in the macroeconomic situation and declining deficits. Between 2005 and 2007, the debt ratio fell from a temporary high of 67% to 64% as a result of the increase in nominal GDP.

From 2008, the crisis led to sharp rise in debt, ...

From 2008 onwards, debt developments were driven by the consequences of the financial and sovereign debt crisis and the government financial market support measures and assistance loans granted to euro area sovereigns in this context. The first of these measures involved shifting toxic assets from WestLB and SachsenLB to the two dedicated special purpose vehicles established for this purpose: Phoenix and Sealink Funding.⁶² As a result of the ring-fencing provided by the state government owners, these “bad banks” and thus their toxic assets and liabilities were recorded as part of the government sector (allocated to the state government level). This caused the Maastricht debt level to rise by €38 billion (1½% of GDP) as early as 2008.⁶³ In addition, a number of institutions were supported by means of capital injections. By the end of 2010, capital injections totalling €47 billion (2% of GDP) had been granted to Commerzbank AG, BayernLB, Hypo Real Estate (HRE), LBBW, WestLB, HSH Nordbank AG, IKB Deutsche Industriebank

AG and Aareal Bank AG. Of these, only a small part – capital injections to HRE, IKB and WestLB – were recorded as capital transfers and thus as having an impact on the deficit.

By far the largest increase in debt was attributable to the assumption of toxic assets belonging to HRE by the state-owned “bad bank” FMS Wertmanagement (FMSW), which contributed €189 billion (7½% of GDP) to the Maastricht debt at the end of 2010. The off-loading of additional toxic assets from WestLB to the Erste Abwicklungsanstalt (EAA) resolution agency caused the debt level for 2010 to rise by a further €21 billion (1% of GDP).⁶⁴

At the end of 2010, the overall debt ratio reached its peak to date at 81%, or €2,088 billion. Of this, €306 billion (12% of GDP) was attributable to measures supporting financial

... which was particularly pronounced in 2010 owing to the support given to HRE

Bank bail-outs reflected less in deficit than in debt

⁶² At the end of 2017, almost all of the remaining assets of Sealink Funding were sold on the capital market, meaning that the corresponding liabilities are likely to be scaled back soon.

⁶³ Furthermore, in 2009, the Federal state of Baden-Württemberg issued a guarantee amounting to roughly €13 billion (½% of GDP) to cover the risk stemming from a reference portfolio belonging to LBBW. The refinancing of the cash deposit held as collateral increased the debt level accordingly.

⁶⁴ Besides this, in 2010, the EAA assumed the assets and liabilities of Phoenix in the original amount of €23 billion. However, Phoenix was already part of the government sector, and thus counted towards Maastricht debt.

institutions.⁶⁵ In this context, developments in deficit and debt levels clearly followed divergent paths. For instance, in cumulative terms, at €39 billion (1½% of GDP), only a fraction of the financial market support measures granted up to that point had a direct impact on the deficit. This was mainly because the toxic assets purchased and the equity capital injected were considered to be recoverable to a large extent, meaning that the increase in debt was thus offset by an acquisition of financial assets.⁶⁶ By the end of 2010, the acquisition of financial assets therefore resulted in positive DDAs of €267 billion (10½% of GDP) in cumulative terms.

Assistance loans to euro area governments overlapped with deleveraging at "bad banks" in some cases

The next few years saw the start of a gradual process in which the financial assets acquired as a result of the crisis were liquidated and the equity injected was repaid. Taken by itself, this caused a decline in the debt level and, mirroring previous developments, DDAs that were now negative. However, the granting of assistance loans to some euro area countries in the aftermath of the sovereign debt crisis,⁶⁷ as well as the assumption of other risk assets by the EAA, in particular, more than offset this debt reduction process.⁶⁸ This resulted in a net increase in debt. Since it was assumed that the assistance loans would be repaid in full at a later date, they were recorded as the purchase of financial assets with no impact on the deficit, thus leading to a positive DDA. The same applied to the paid-in capital provided by Germany to the European Stability Mechanism (ESM), which was used to settle the European assistance loans granted from mid-2012.⁶⁹ The increases in debt were therefore higher than the respective deficits until 2012. In 2012, absolute debt reached an all-time high of €2,202 billion (debt ratio of 80%). At the same time, the impact on debt it contained as a result of the financial and sovereign debt crisis also peaked at a total of €360 billion.⁷⁰

From 2013, the debt level also decreased in absolute terms on the whole, and the debt ratio declined significantly owing to nominal GDP

growth in the ratio's denominator. However, the very favourable budgetary situation, which included surpluses, also contributed to this, although these surpluses were only partially reflected in a decrease in debt. In particular, surpluses generated by local governments and the (largely debt-free) social security funds not only led to debt repayments, but also to a build-up of financial assets in these government subsectors.⁷¹ However, from a general government perspective, this was counterbalanced by the portfolio decrease at the "bad

Decrease in debt since 2013 thanks to economic growth and budget surpluses

65 Indirect effects from financial market support measures, eg assumed funding costs or revenue from guarantee fees, are also taken into account here.

66 For this reason, the bulk of the government's expenditure on the purchase was considered a financial transaction without any impact on the deficit. Any revaluations of assets after a transfer generally have no impact on the deficit because they are not viewed as transactions.

67 Bilateral loans were granted to Greece via KfW on behalf of and for the account of Germany's central government (since 2011: €15 billion or ½% of GDP). In addition, the assistance loans granted via the European Financial Stability Facility (EFSF) to Ireland, Portugal and Greece, as well as the assumed liabilities from their funding, were allocated in economic terms to the guarantor euro area countries according to their share in the ECB's capital key (peaking at €55 billion or almost 2% of GDP for Germany).

68 "Topping up" the EAA increased the debt level by €24 billion in 2012. By contrast, the reclassification of Portigon, the successor to WestLB, to the general government sector increased the debt figure for 2012 by only €3½ billion since the bulk of the assets and liabilities had already been transferred to the EAA.

69 Unlike EFSF loans, for loans granted via the ESM, the corresponding assets and liabilities are not assigned to the creditor countries. In contrast to the EFSF, Eurostat decided that the ESM, as an independent institution, would be classified outside the government sector, as it is evidently assumed that lending and borrowing take place mainly at the ESM's own risk. Nevertheless, from an economic perspective, the creditor countries remain exposed to risk due to the additional callable capital, and ultimately decide on the granting of loans. Between 2012 and 2014, Germany provided paid-in capital to the ESM totalling €22 billion. Loans granted by the EU from its own budget via the European Financial Stabilisation Mechanism (EFSM) are not reflected in the debt levels of the EU member states, either.

70 Germany's share of all European assistance loans and paid-in capital to the ESM increased to €91 billion (or 3% of GDP) by the end of 2014, and, since 2015, has stood at €88 billion (currently 2½% of GDP).

71 For the most part, these were not invested in debt instruments issued by other government sector entities. Otherwise, this would have resulted in consolidation and a lower Maastricht debt level.

banks”,⁷² resulting in negative DDAs on balance.

Maastricht debt likely to decline further as things stand

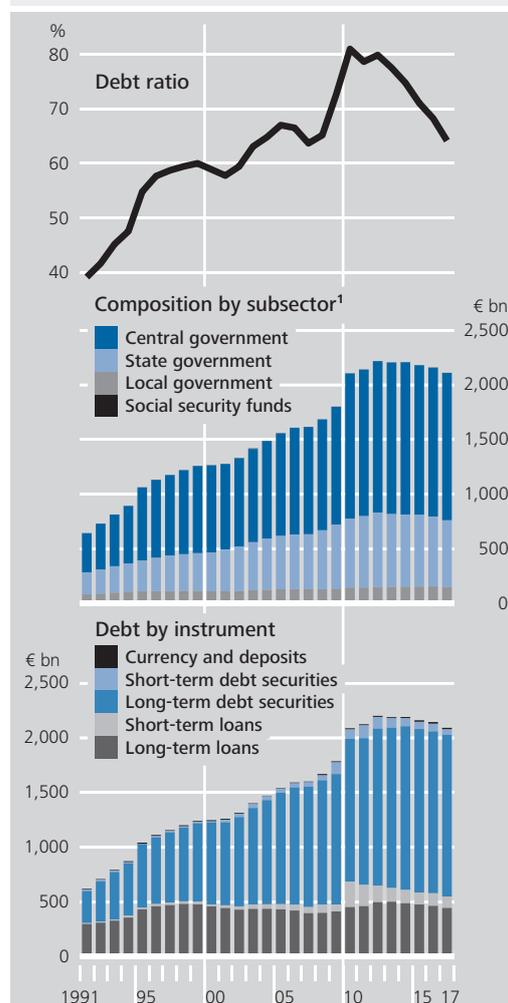
At the end of 2017, the debt level stood at €2,093 billion (64.1% of GDP). Of this, the aforementioned effects from the financial and sovereign debt crisis amounted to €282 billion, or 8½% of GDP. The extent to which Maastricht debt decreases in the future will depend on the pace at which risk assets continue to be effectively liquidated by the “bad banks” and assistance loans granted bilaterally or via the EFSF are repaid. Beyond this, not least in light of the strict borrowing limits under the national debt brake and a continued marked increase in nominal GDP, the Maastricht debt ratio can be expected to further significantly decline over the following years and to fall below the 60% limit by 2019 at the latest.

Borrower structure

Central government debt has risen sharply

Looking at the contribution of the government subsectors to the Maastricht debt level, the share attributable to central government climbed by 7 percentage points to 63% by the mid-1990s on account of the fiscal burdens created by German reunification, while the state government share (despite significant debt increases in absolute terms) fell by 5 percentage points to 26%. Until the beginning of the 2000s, central government’s share remained more or less constant, but then decreased over time as the proceeds from the UMTS auction were used for debt repayment, stabilising at around 60%. However, FMSW’s assumption of HRE’s risk assets caused central government’s share to jump back up by 3 percentage points in 2010, although financial market support measures had also been taken at the state government level. The share at the local government level has fallen constantly since the beginning of the 1990s, from 13% in 1991 to a stable level of 7% since 2010. As a rule, social security funds cannot be debt financed. Although the deficits of the statutory health insurance institutions were partially

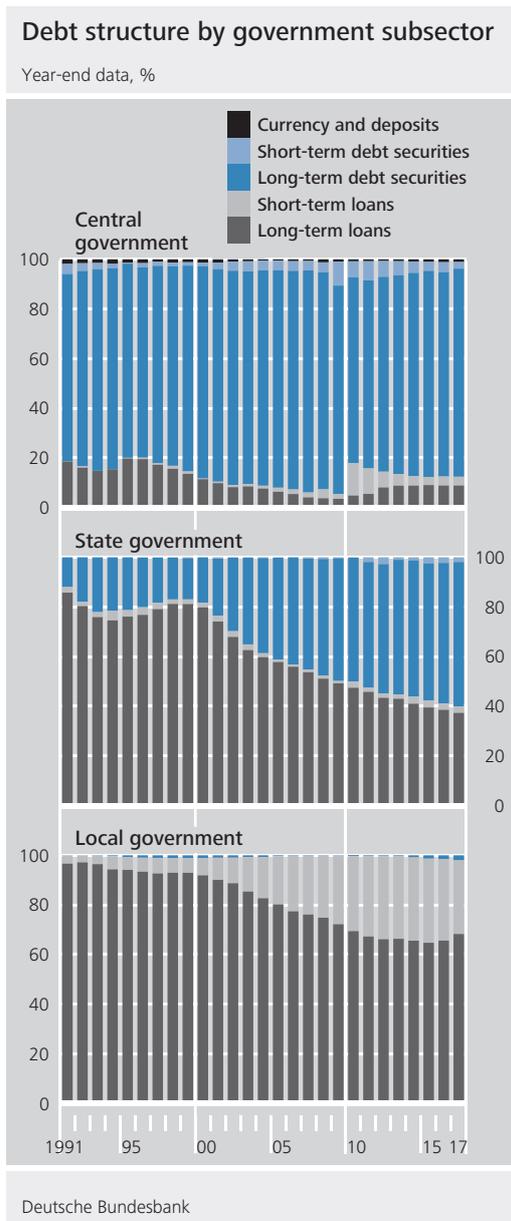
Level and structure of general government debt



¹ This shows the debt of each government subsector consolidated by excluding their debt vis-à-vis other subsectors.
 Deutsche Bundesbank

financed through bank loans in the first half of the 2000s, this took place on a relatively small

⁷² This was by no means a steady process. For instance, changes in market interest rates led to considerable changes in the market value of the derivative positions of FMSW. Although they are not part of the Maastricht debt themselves, cash collateral must normally be provided for derivative liabilities, which generally means that borrowing is required or prevents repayments from being made. For claims arising from derivative positions, cash collateral is received and, at the same time, recorded (enlarging the balance sheet) as a repayable loan on the liabilities side. In addition, FMSW’s purchase of liabilities from the Irish subsidiary Depfa temporarily expanded the balance sheet. Besides this, in 2015, the EAA assumed financial assets belonging to the EAA Covered Bond Bank, albeit to a lesser extent. The establishment of HSH Portfoliomanagement as a state-owned “bad bank” of HSH Nordbank in 2016 also played a small role in the delayed reduction of the debt stemming from the financial market crisis.



scale. Because the social security funds are simultaneously creditors to other levels of government (and these intra-government debts are consolidated), their contribution to the Maastricht debt level – measured as the difference between their own debts minus claims on other levels of government – is negative in most years.⁷³

Structure of debt instruments

In terms of types of debt, a persistent trend towards marketable forms of debt such as money or capital market instruments can be

Trend towards marketable debt continues ...

identified for general government in the period under review. The share of these increased from 50% in 1991 to 73% by 2009. Through the establishment of FMSW, which entailed the transfer of liabilities from HRE in 2010, the weight of loan-based debt went back up significantly for a time. In the following years, however, the trend towards marketable debt instruments resumed from a lower level, reaching a share of almost three-quarters again of late.

Looking at the individual government levels, considerable differences are visible in terms of structure and development. While central government financed around 75% of its borrowing through capital market instruments at the beginning of the 1990s, this share amounted to just 12% for the state governments as they relied more heavily on bank loans. However, apart from a period in the second half of the 1990s which saw greater loan financing, the share of capital market instruments at the aggregate state government level rose steadily to 58% by the end of 2017.⁷⁴ At the central government level, this figure stood at 84% at the end of 2017.

... amongst central government's traditionally strong capital market orientation

Among marketable instruments, money market paper played a noteworthy role for many years primarily at the central government level. In the wake of the financial and economic crisis, central government considerably increased its activity in this sector for a time. In 2009, the outstanding volume more than doubled to 10%, covering a substantial part of the financing requirements. The gradual decline in central government's core budget money market borrowing over the following years was partly offset by issuances by FMSW. At state government level, money market instruments only became more important through issuances made by the EAA. However, at a temporary high of 3% in

Money market debt more important since the crisis

⁷³ See in this report: Statistical Section, X Public finances in Germany, Table 14.

⁷⁴ In this context, the individual Federal states use marketable debt instruments to widely varying degrees.

2012, they accounted for just a small proportion of state government debt.

Bank bail-outs and assistance loans increase loan debt

Turning to loan debt, the share of long-term loans in central government's total debt fell from 20% in the mid-1990s to below 4% at the end of 2009, but then went back up to 9% by 2013. This was due to assistance loans provided by central government to other euro area member states through KfW and the EFSF. Until 2009, central government's share of short-term loans hovered below 4%. When FMSW was set up in 2010, HRE's financing structure, which was geared towards short-term loans in the interbank market, was transferred to central government. The share of short-term loans shot up to 13% as a result, but went back down to below the 4% mark by the end of 2017. At state government level, the share of long-term loans decreased from 86% at the end of 1991 – conversely to the accumulation of long-term debt securities – to 37% at the end of 2017. At local government level, after increasing significantly, long-term loan debt remained virtually unchanged at an absolute level of around €100 billion until the mid-1990s. By contrast, particularly from the beginning of the 2000s, stocks of short-term loans, especially cash advances, rose substantially to over €50 billion in 2015, but fell to €44 billion at the end of 2017, not least on account of favourable budgetary developments.⁷⁵ While the share was still below 4% in 1991, just under one-third of local government debt is now financed through cash advances and short-term loans.⁷⁶ However, there are marked differences between individual municipalities, and their outstanding cash advances are heavily concentrated in just a few Federal states.⁷⁷

■ Outlook

Germany's Maastricht debt is mainly compiled on the basis of the official debt statistics, which, in principle, include all entities allocated to the general government sector. The debt statistics have been the tried and tested survey method

Statisticians facing challenges in light of European obligations

for decades. However, statistical data requirements at the European level have increased significantly over time, mainly owing to negative experiences with the quality of Greece's data and the resulting difficulties in assessing the sustainability of its public finances. This means that Germany's statistical system is facing challenges in general, but also with regard to the Maastricht debt compilations.

It is difficult to satisfy the growing data needs at the European level and the stricter quality requirements for a number of outsourced government activities from several very different – and often unintegrated – public accounting systems, with the single-entry system being by far the largest overall. In this context, the requirements cannot always be readily met by the existing systems of government entities. For instance, it is sometimes necessary to tap indirect data sources that are primarily intended for other purposes and that are potentially inconsistent with the main accounting systems. However, discrepancies can also arise because the necessary consolidation of financial relations within the government sector cannot be fully derived from the accounting system in place.⁷⁸

Stricter requirements to be met by heterogeneous systems ...

... leading to potential inconsistencies

Although, on the whole, Germany's existing budgetary and finance statistics systems are well established and largely provide a reliable picture of the single-entry system, the obliga-

Taking greater account of European requirements

⁷⁵ The heterogeneity in the financial situation of the municipalities can be seen by looking at the simultaneous build-up of municipal financial assets of more than €70 billion, which are likely to reflect investments by wealthy local governments, in particular.

⁷⁶ Cash advances are classified here as short-term loans. In some Federal states, the rules for such loans, which were actually only intended to bridge liquidity shortages, have now been eased significantly, however, meaning that maturities of up to ten years are now permitted and also seem to be in use.

⁷⁷ See also Deutsche Bundesbank, Local government finances: development and selected aspects, Monthly Report, October 2016, pp 13-36.

⁷⁸ Meanwhile, a reform of the particularly important government budgetary planning system is underway to establish clear delineation. However, since an entity's sector classification can be revised, information about the transaction counterparties should also ultimately be retained (automatically) for all units.

tions entered into at the European level have only been partially accompanied by corresponding adjustments to the national public accounting system. The establishment of an expert panel through the Budget Principles Act (*Haushaltsgrundsätze-gesetz*) to ensure that the various government accounting standards also take into account the statistical requirements of the national accounts is a welcome development. However, there is still some catching-up to do in certain areas. For instance, the quality of statistical reporting is heavily dependent on the accounting system on which the required

data is based. Against this backdrop, it would generally make sense to have a far more harmonised accounting system across general government that depicts revenue and expenditure flows with balance sheet stock data in an integrated way. If this aim is not pursued, it is important that the standard-setting bodies responsible at central and state government level, in particular, make efforts to close the current data gaps and address consistency issues through targeted adjustments to the relevant accounting systems.