

# How to Read Government Deficit and Debt

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## Abstract

Economic situation of the government described by the indicators of the national accounts is currently under the spotlight of the professional public. The indicators have its relevance to considerations of the fiscal sustainability and the European Monetary Union enlargement. However, awareness of the methodology is rather weak; the indicators are in many cases confused with other indicators related to public finance. The main aim of the text is to provide a detailed explanation of nature of key indicators used for the purpose of the Excessive Deficit Procedure. At the same time, main differences between indicators related to the state budget, public sector and EDP procedure are outlined.

## Keywords

National accounts, government deficit, government debt, state budget, EDP, public sector

## JEL code

H62, H63, H71, E62

## PREFACE, INTRODUCTION

As a member of the European Union, the Czech Republic is obliged to follow the rules of fiscal stability defined in the Stability and Growth Pact. The Pact specifies well-known thresholds of government deficit (3% of GDP) and government debt (60%). These (Maastricht) criteria are presented in the Excessive Deficit Procedure (EDP).<sup>3</sup> EDP is launched with a Member State having breached or being in risk of breaching the deficit rule, or with a Member State with the government debt exceeding 60% and if, at the same time, the debt is not reduced at a satisfactory pace.

Economic situation of the government described by the indicators of the national accounts is currently under the spotlight of the professional public. The indicators have its relevance to considerations of the fiscal sustainability and the European Monetary Union enlargement.<sup>4</sup> However, an awareness

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<sup>3</sup> The legal basis of the SGP is represented by Articles 121 and 126 of the Treaty on the Functioning of the European Union. Fiscal thresholds are specified in the Protocol No. 12 on the excessive deficit procedure, which is annexed to the Treaty on European Union. To enhance the fiscal responsibility, new regulations were introduced during last years. In December 2011, the Sixpack has entered into force, followed by the Fiscal Compact in 2013. It is worth to mention, that the Czech Republic has not ratified the Fiscal Compact so far. On May 2013, the regulation “Two Pack” intended for the eurozone members has also entered into force. Aim of these regulations is to strengthen the surveillance mechanism in the Euro Area.

<sup>4</sup> However, within the Six-pack regulation additional set of rules has been introduced. If public expenditures are not matched by appropriate revenues, than public expenditures must not rise faster than medium-term potential GDP growth (so-called “expenditure benchmark”). More attention is also paid to structural deficit, i.e. balance not affected by the economic cycle. Structural deficit can not breach the threshold 0.5% of GDP.

of the methodology is rather weak; the indicators are in many cases confused with other indicators related to public finance. The main aim of the text is to provide a detailed explanation of nature of key indicators used for the purpose of the Excessive Deficit Procedure. At the same time, main differences between indicators related to the state budget, public sector and EDP procedure are identified.

Quantification of government (“Maastricht”) deficit and debt is based on methodology of the national accounts (ESA95, ESA2010 respectively) which is defined by the Regulation; for reflection of specific features of the government and to make the methodology more flexible, Eurostat publishes complementary guidance the “Manual on Government Deficit and Debt”, recommendations related to calculation of taxes or social contributions, but also advices given by the Eurostat to member states concerning specific issues.

The quality of final data is under strong supervision of users. EU member states are obliged to provide twice a year the “notification of government deficit and debt”; integral part of the notification process is the period of “clarifications” within which appropriate application of methodology is bilaterally discussed by national statistical office and the Commission. Parts of the verification process are also dialogue mission focused on compilation process and data quality.

Aim of this text is to provide a detailed explanation of relation between indicators describing the public sector, the Public, the State on the one hand, and the government deficit and debt as defined by the regulation on the application of the Protocol on the EDP.<sup>5</sup> For better understanding, also description of the data compilation process in the Czech Republic is presented. Because of the revision being in process during 2014, the most important changes in the methodology having impact on the government deficit and debt are also indicated in the following paragraphs.

## 1 GOVERNMENT VS. STATE

Methodology and delimitation of units standing behind the government deficit and debt are considerably different from those used for calculation of state budget and state debt or for public deficit and public debt. The adjective “state” signifies that given indicators are related to the state budget (i.e. Organizational Units of the State – so-called “central budgetary institutions” – CBO). Definition of the term “state” is thus narrower than the definition of “government”.

Compared to the indicators for budgetary institutions, the delimitation of the group of units which have direct influence on a level of government deficit and debt for EDP is a broader concept. ESA2010 (§ 2.111) states that “*the general government sector (S.13) consists of institutional units which are non-market producers whose output is intended for individual and collective consumption, and are financed by compulsory payments made by units belonging to other sectors, and institutional units principally engaged in the redistribution of national income and wealth.*”

It is evident that the general government sector contains units managing not only compulsory payments, i.e. taxes, fees, and contributions to the general social and health insurance. Government units can be also engaged in the distribution of subsidies or providing services to other government units. In addition, as government units are also classified institutions managing government assets or units which are involved in the privatization process and also other (non-market) entities according to quantitative or qualitative criteria mentioned below.

Government institutions are split into subsectors according to the scale of their competence and specific functions. In the Czech Republic, there are three sub-sectors of the general government sector:

- a) *central government (S1311)* – organizational units of the state (ministries and central offices and units managed by the entities including Czech Social Security Administration, State Land Office, financial and labour offices etc.), state funds, central (state) semibudgetary organizations (CSBO)

<sup>5</sup> Council Regulation (EC) No 479/2009.

Railway Infrastructure Administration (RIA), Support and Guarantee Agricultural and Forestry Fund (SGAFF), Wine-grower Fund (VF), PPP Centre (since 2013 as Centre-F), public universities (PU), public research institutions (PRI), and CPP Transgas and Balmed, Council for Public Supervisory over Audit (CPSA) and a nursery school (established by a public university); there were 549 units classified in S1311 in 2012,

b) *local government (S1313)* – territorial self-governing units, Voluntary Associations of Municipalities, Regional Councils of Cohesion Regions (local budgetary organizations – LBO) and semibudgetary organizations established (LSBO) and managed by the LBO), non-profit institutions (e.g. Union of Towns and Municipalities, Association of regions of the Czech Republic), other non-market units according to 50% criterion (e.g. public non-financial enterprises and public research institutions);<sup>6</sup> there were 16 939 units in 2012,

c) *social security funds (S1314)* – health insurance companies (HIC) managing general (compulsory) health insurance,<sup>7</sup> associations of health insurance companies and Centre for International Reimbursement (CIR); this subsector counts 12 units in 2012.

The overview of government institutions is not stable over time, some units can be cancelled (e.g. The National Property Fund, the Czech Consolidation Agency or its subsidiaries) or new units are established; units may also change the legal form or they can be reclassified from/to other institutional sector on the basis of quantitative and qualitative criteria.

Moreover, both groups of indicators (for the State and for the government sector) are based also on different accounting principles. While “the deficit of State budget” is a result of cash transactions as requested by the methodology GFS1986,<sup>8</sup> the national accounts are based on accrual principle, i.e. recording of transactions in the period in which they actually occur, as requested by the ESA methodology. It is worth mentioning that gradual implementation of the methodology GFS 2001 or GFS 2014 respectively, will make the statistical presentation of government sector in both methodologies of similar nature.<sup>9</sup>

Definition of government revenues and expenditures influencing government deficit are explicitly defined in the manual ESA 2010 (par. 20.76-20.111).<sup>10</sup> One of the most important differences between state balance and government deficit/surplus is an influence of financial transactions. Even if financial transactions positively or negatively affect the state budget balance, they have no impact on indicator of government deficit or surplus based on the national accounts standard. As examples we can put repayments of existing loans by the State (revenues) or provision of new loan (expenditures) – so called transactions “below line”.

Elimination of financial operations is the first important difference between state budget balance and government deficit/surplus. Last but not least, Maastricht indicators are based on accrual basis while the state budget balance is a sum of cash transactions. Maastricht indicators are thus affected also by transactions not linked to transfers of cash. This can take form of debt assumption, recognition of payables by government (for example financial compensation in case of church restitutions), called guarantees, differences between selling and market price of any asset, etc.

<sup>6</sup> Semibudgetary organizations, public universities, public research institutions that have features of non-profit and non-market units carry out of government functions, e.g. in education, research, cultural or of social areas, etc. and their production expenditures are paid from the state budget or local budget from over 50%.

<sup>7</sup> Health instance companies administrating compulsory health instance are based under acts No. 551/1991 Coll., on General Health Insurance Company and No. 280/1992 Coll., on departmental, branch, corporate and other health instance companies, as amended. Other units are established as non-profit institutions serving health insurance companies.

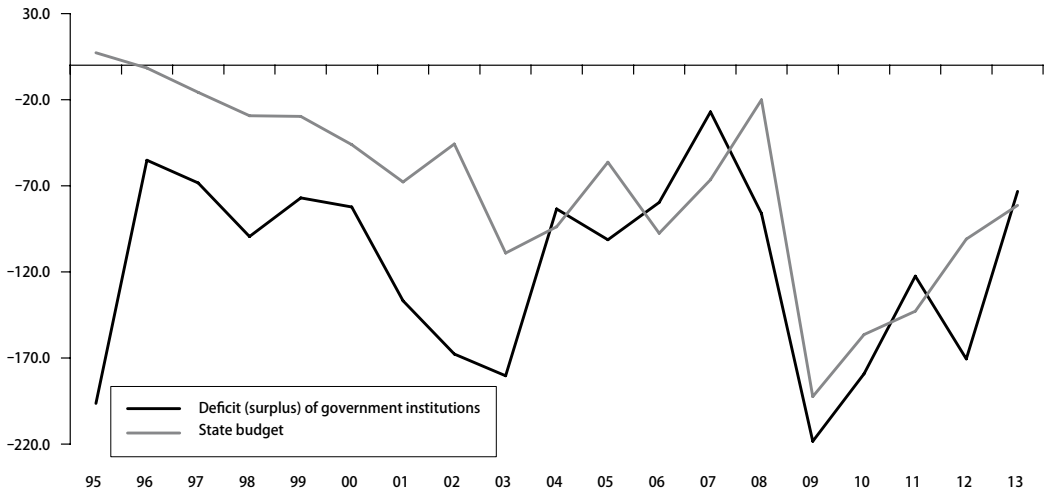
<sup>8</sup> MoF applied this methodology until 2005.

<sup>9</sup> The Ministry of Finance publishes GFS data on cash basis and for selected government units; in new Manual GFS 2014, also the issue of public sector is addressed, i.e. delimitation and presentation of data.

<sup>10</sup> For more detailed analysis, see part 3.1 of this text.

Following charts clearly illustrates the differences between the state budget balance and the government deficit based on the ESA in the Czech Republic. As mentioned above, these differences are caused by dissimilar delimitation of units for which the indicators are compiled, by the different applied accounting principle and by different handling with financial transactions.

**Figure 1** The state budget balance and the government deficit in the Czech Republic (CZK billions)



Source: CZSO, MoF

Concerning debt, differences in accounting principle and financial transactions have no relevance. But, state debt and government debt differ from each other, as in the previous case of deficit/surplus, due to different delimitation of units. Maastricht debt takes into account not only debt of the State (debt of central budgetary organisations – ministries and central offices), but also debts of state funds, semi-budgetary organizations, public universities and other central government institutions, municipalities and regions, health insurance companies managing public health insurance, etc. Maastricht debt further includes called guarantees or imputed debt resulting from financial leasing, e.g. renting of military equipment on leasing (case of aircrafts Gripen).

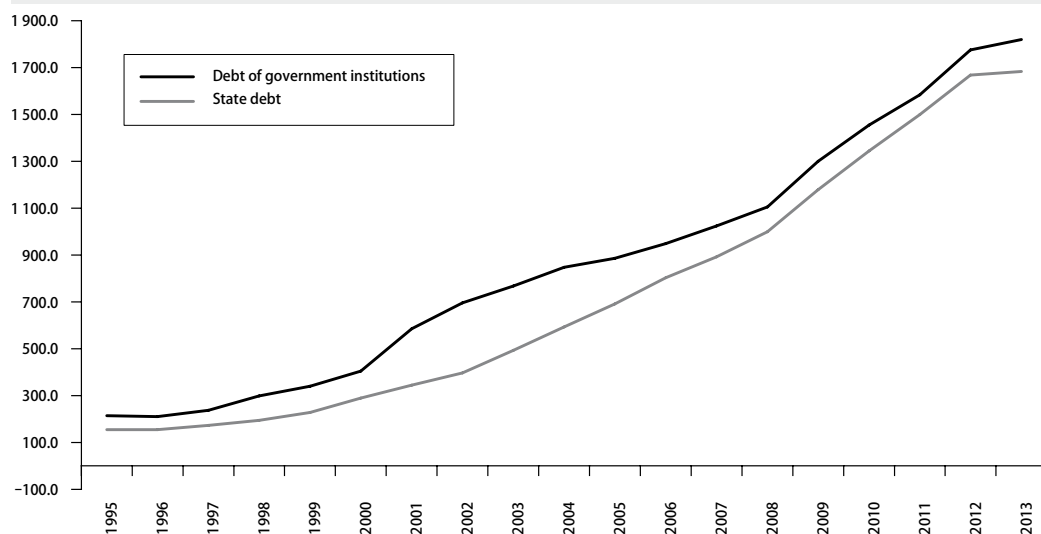
Indicators of government deficit and debts can be also affected by so-called rerouting of stock and flows in case of public companies acting on behalf of government. Rerouting can be the case of units raising funds (in form of debt) on the financial markets to pursue government policy (social aims, promotion of economic activity, etc.) or which can benefit from guarantees granted by the government. If the financial risk is borne by the government, these debts are rerouted to the government accounts with an impact on the Maastricht debt.<sup>11</sup>

The amounts of the consolidated government debt and the state debts in the Czech Republic are shown in the following chart.

## 2 GOVERNMENT VS. PUBLIC

In this section we proceed to clarification of the differences between the terms “government” and “public” which are more commonly confused. As a main source of this confusion we find inconvenient

<sup>11</sup> As an example can be given the statistical treatment of financial assistance provided by the European Financial Stability Facility (EFSF). The EFSF raised funds via bond emission, these debts are then rerouted to national governments. The Czech Republic have not yet participated in this mechanism.

**Figure 2** The government debt for EDP purposes, the state debt, the Czech Republic (billions CZK)

Source: CZSO, MoF

translation of the Regulation 3605/93 on the application of the Protocol on the excessive deficit procedure (as amended, especially No 479/2009). In the Czech version of the Regulation, the terms “government deficit” and “government debt” are expressed as “veřejný” whose English equivalent is “public”; subsequently, the term “veřejný” is defined as related to units classified in the general government sector. Due to this translation, the term “veřejný” in the Czech version delimits an area which is understood as “vládní” and permanently used in the Czech national accounts.

As a direct consequence, the term “veřejný” is usually used by many institutions or media to denote the sphere of the economy which is marked as “vládní” in the national accounts and in the EDP notifications; from the national accounts point of view, the sector termed “veřejný” covers wider range of institutions. National accounts indicators for public sector cover not only government units, but all units controlled by the government in terms of majority or because of an influence of the government on corporate policy (strategy) of a unit.<sup>12</sup>

As examples of non-financial public corporations can be mentioned public transport companies, hospitals or theatres which can have form of stock companies, limited companies or some semi-budgetary institutions operating on the market basis. There are also public banks (Czech National Bank – CNB, Czech-Moravian Guarantee and Development Bank – CMZRB) in the Czech Republic, as well as public insurance companies (Export Guarantee and Insurance Corporation – EGAP; Insurance Company of General Health Insurance Company (ICoGHIC) – Pojišťovna VZP, Health Insurance Company – Vitalitas) and other public financial institutions. All these institutions are classified in the public sector.<sup>13</sup>

The following schema provides an overview indicating the differences between public and government sector. For completeness, we should mention two important things. First, it should be recalled that public sector is defined within the borders of the economy; shares in non-resident units are not taken into

<sup>12</sup> Public sector is newly explicitly defined in the methodology (see par. 20.303 in the ESA2010); the same definition of public sector is applied also in the methodology GFS 2001.

<sup>13</sup> Classification of units can be found on web site of the Ministry of Finance (database ARES).

accounts. Second, if government exerts an influence on non-profit institutions, this unit is then classified as government institutions. As mentioned above, to assess the influence of government on behaviour of any units does not cover only quantitative criteria (majority of shares) but also qualitative criteria which are focused on other institutional influence as ability to approve or to dismiss key personnel, etc.<sup>14</sup>

**Table 1** Delimitation of public and general government sector in the national accounts, the relation to the government deficit and debt (2012)

PUBLIC SECTOR (Sector of public institutional units)		
Sub-sector of public non-financial corporations	Sub-sector of public financial corporations	General government sector
Market producers: state companies, some central and local semibudgetary institutions, joint-stock companies (e.g. České dráhy, ČEZ, ČSA, DP hl.m.Prahy, etc.) and other limited company	ČNB, ČMZRB, IMOB Company, Galileo Real, EGAP, Insurance Company of General HIC, HIC – Vitalitas, public holding companies, etc.	Central and local budgetary and semi-budgetary organizations, SGAFF, RIA, Prisko, public universities and public research institutions, some public nonfinancial corporations classified as non-market, non-profit institutions and health insurance companies, etc.
		Government deficit/surplus and government debt (Maastricht) for EDP purposes

Source: CZSO

Within the classification of units into the institutional sectors / subsectors, above all, it is determined whether unit is private or public and whether the public entity is a market or non-market producer.

Criteria for classification to institutional sectors should be at least briefly described. Legal form of the public entity is not decisive for the classification. Nevertheless, newly founded joint-stock companies or limited companies and similar units are expected to be established to make a profit, i.e. they are considered to be market producers. In most cases, these units are classified to public corporations sub-sector (but taking into account also the qualitative criteria). Concerning semi-budgetary organizations, it is assumed that they are established as non-market and therefore they are classified to the general government sector, and later it is examined if all criteria are met.

At the same time, the qualitative criteria are assessed; they consider e.g. whether production is sold primarily to corporations and households or to government institutions. It should be assessed whether a unit operates in the competitive environment, whether right to dispose of an asset is limited to some extent (the case of roads, railway, etc.), to check the financial resources (public or private) or to analyze whether a government unit bears risk linked to business.

The quantitative criterion consists in the assessment the rate at which the costs are covered by sales. For this purpose, total production costs are calculated as sum intermediate consumption (ESA code P.21), compensation of employees (D.1), depreciation of fixed capital (K.1, respectively P.51c) and other taxes on production (D.29), financed from own sources (from sales excluding tax on products and including subsidies on products – P.11). In the revised manual (ESA2010), the definition of total costs is further extended by net interest (D.41) due to the fact that some highly indebted public companies can escape the debt statistics.

Total value of output (numerator in the formula) includes sales of market and non-market output (P.11 + P.131). Definition of sales (output) in the ESA 2010 is unchanged, i.e. it includes sales excluding taxes on products and, on the contrary, including subsidies on products. Because output for own use (P.12)

<sup>14</sup> See par. 2.28 in the ESA 2010.

is not involved in the numerator, to keep both numerator and denominator comparable, it is necessary to exclude the value of output for own use also from denominator (part of costs included in intermediate consumption). As a result of this procedure, public unit is classified as public corporation if the resulting coefficient is higher than 0.5 (and if they also correspond to the quality criteria).

A quantitative criterion is not generally relevant for financial institutions. The reason is that, in these cases, main source of profit is financial activity which mostly does not directly affect output. According to ESA95, public financial institutions listed on the MFI list were without exception classified in the sector of financial institutions.<sup>15</sup> But, revised methodology ESA2010 brought about an important change concerning classification. If a public financial institution does not bear risk but risk is transferred to the government, then this unit should be classified within government sector regardless of banking licence.<sup>16</sup>

At the end of this section it is worth to point out that the attention of users (especially of international institutions) has been increasingly focused on the public sector indicators as defined in the national accounts. The main reason is that indicators of public sphere can give an idea on potential threats for government finances. Institutional arrangement between government and public institution can give rise to requirements for recapitalisation, debt assumption or called guarantees which can negatively affect government indicators. Increasing demand for these broader indicators has been met by the CZSO with publication of Public sector accounts (PSA), which is treated as a satellite account.<sup>17</sup>

Time series of public sector indicators is currently available for period 2009–2011, nevertheless, further development of the PSA is one of the CZSO priorities. Following table illustrates the differences in the net borrowing/lending item as calculated for the EDP purposes and in the PSA in ESA95.

**Table 2** Net lending/borrowing, government sector accounts vs. Public sector accounts, Czech Republic, 2009–2011 (bill. CZK)

	2009	2010	2011
Government sector B.9	-217 412	-180 720	-124 552
Public sector accounts B.9	-184 739	-166 370	-113 981

Source: CZSO

Lower level of deficit/surplus reflects mainly the fact, that B.9 as calculated in the PSA is (positively) affected by activities of the market producers indicated in the Table 1.

### 3 THREE STEPS TO DEFICIT/SURPLUS AND DEBT

As mentioned above, there are important differences between public sector, government sector and the “state”. For the EDP purposes, we are talking about the indicators (deficit/surplus and debt) for the sector of government institutions. In the process of compilation of government deficit and debt, it is necessary to make the following steps: a) to delimit *the general government sector* (code S.13), i.e. to define non-market units under control of government, which have an influence on government deficit/surplus and government debt; this issue was discussed in previous chapter;

<sup>15</sup> From 2001 to 2006, the Czech Consolidation Agency (CKA) used to be classified in the government sector in the Czech Republic. Qualitative criteria were applied in this case even if the Agency had a banking licence; but at the time of reclassification, the Agency lost the licence.

<sup>16</sup> Within the revision process, the attention was paid mainly to the public banks. The question of reclassification of public bank to government sector was still open at the time of completion of this text.

<sup>17</sup> In the methodology ESA95, the public sector was not explicitly defined, nevertheless, the methodology provided a basis for the compilation of the PSA. PSA has an important position in analysis of potential government deficit a debt risk.

- b) to delimit *revenue and expenditure* (or resources and use) having an impact on government deficit and to specify the methodology of their calculation;
- c) to define the *government debt components* and to specify the methodology of the calculation.

### 3.1 Revenues and expenditures influencing government deficit (surplus)

As stated above, revenues and expenditures having impact on the government deficit/surplus (the item net borrowing/lending (B.9) in the national accounts) are defined in the manual ESA2010. The process of compilation reflects the national specifics concerning the nature and the level of detail of data sources. In the Czech Republic, the starting point within the central government institutions is the working balance of the State budget calculated on the cash basis and within the local government institutions it is working balance of budget of local budgetary organisations on the cash basis balance of the classes 5 and 6 of the Budgetary System.

During the transition from the state budget to central government deficit (and also from municipality budget to local government deficit), it is necessary to make many steps. The most important are the following:

- elimination of financial transactions (sale of financial assets, provision of loans, etc.),
- elimination of EU funds if final beneficiary is non-government unit,
- inclusion of extra-budgetary funds, which are not included within revenue of the state budget (or local budgets) – e.g. revenue from dividends of some privatized units.

Moreover, it is necessary to count in economic results of units which are not directly linked to the state budget, i.e. state funds, local budgetary organizations, semi-budgetary organisations, non-profit institutions, health-care insurance companies and other non-market producers classified in general government sector.

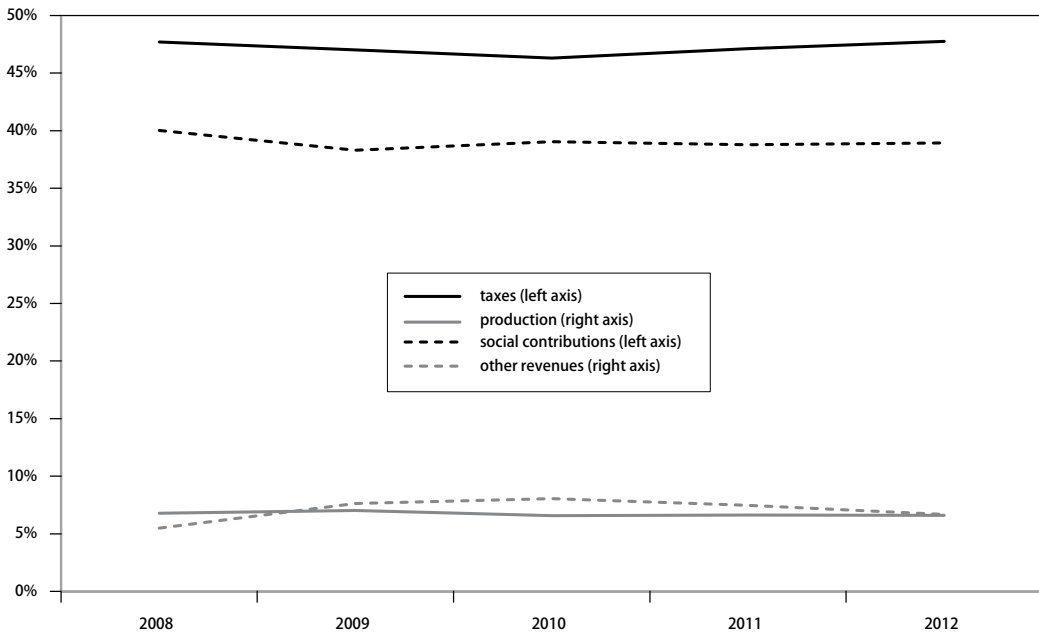
Primary data for all institutions considered as government units are then methodologically adjusted to the national accounting methodology. First of all, accrual principle is applied to flows as taxes, interests or social contributions. Among others adjustment we can mention treatment of financial leasing as loan, adjustment of commercial insurance, estimation of indirectly measured financial service paid by government institutions (FISIM), etc. Because final data should be on consolidated basis, it is further necessary to eliminate mutual relations within government sector. Thus, final data represents pure relation of government units to other economic sectors. Consolidation is carried out, in compliance with the ESA methodology, for interests, other current transfers and capital transfers.

In the following paragraphs, we briefly analyze the structure of government revenues and expenditures having impact on the item B.9. **Sources of current revenues** are mainly taxes representing about 47% (in period from 2008 to 2012) of all revenues. Final aggregate of total taxes is calculated on the base of time-adjusted method; time adjustment is different for different types of taxes. Share of social contributions (quasi-taxes) reached in the same period almost 40%; aggregate of social contributions is also based on the time-adjusted method. Among the other revenue types belong revenues from market and non-market production, whose share achieved to approximately 6.5%. It is mainly revenue associated with the lease of assets of government institutions, but also for instance revenue from tolls, highway vignettes, administrative fees or revenue from tuition fees.

Other revenues reached more than 7%; in particular property income (profit shares, dividends, and interest), other current transfers and capital revenue. Other current transfers include e.g. claims from insurance companies, the humanitarian assistance in case of natural disasters and accidental revenue in the form of returned subsidies and other. Capital revenues are made up of investment grants from abroad (excluding investment grants from EU, intended for non-government units), revenue from the sale of tangible and intangible non-financial assets (e.g. dwellings, licences), or gifts.

The structure of **government expenditure** is more volatile compared to the revenue structure. The development and amount of expenditure will also participate in current and capital expenditures.



**Figure 3** Structure of government revenues (% of GDP), Czech Republic, 2008–2012<sup>18</sup>

Source: CZSO

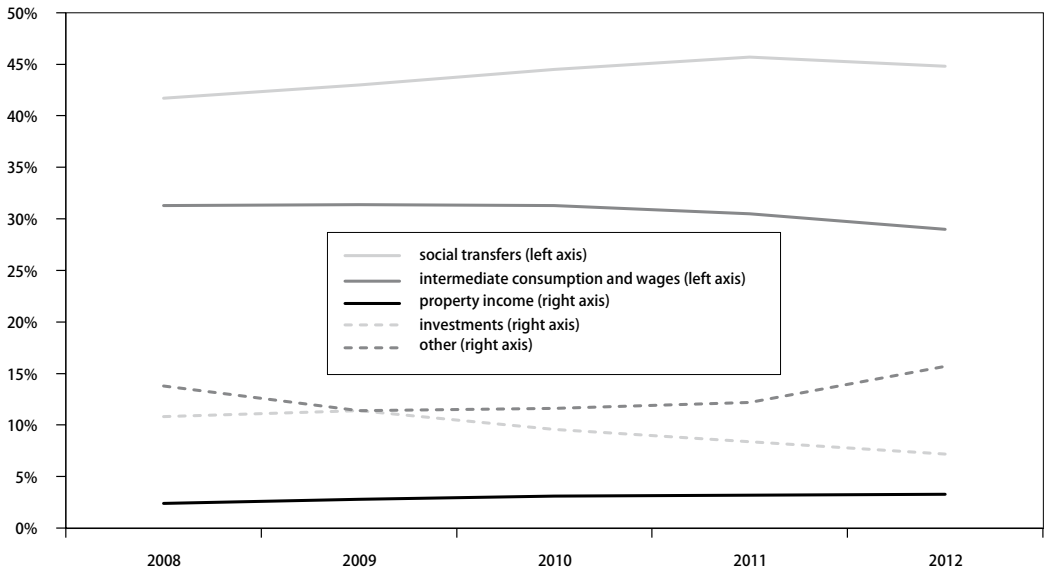
From among current expenditures there are especially expenditures in cash and social benefits in-kind paid from social and health insurance and social benefits assistances provided under the state social support. From 2008 to 2012, the social benefits represented about 45% of total expenditure. About 30% of government expenditure is in the form of purchases of products and services (intermediate consumption) and wages including employers' contributions to social, health and compulsory accident insurance (compensation of employees). More than 2% of the expenditure includes property income, mainly interest on government debt.

The amount of the investment shows to be the most volatile component of expenditure; it is related to a significant share of mandatory expenditure and the economic cycle. In general terms, investment (capital) expenditures fluctuated about 10% from total expenditure. A segment of other expenses includes both paid grants and expenses related e.g. to transfers free of charge, corrections of EU grants, but also debt forgiveness or restitution. It is therefore (also at the time) a very unstable and unpredictable item of total government expenditure.

A special attention will be paid to the government consumption and investment expenditures due to their supposed position in government stabilisation policy. However, the government consumption is not explicitly shown as a part of government expenditures. The reason is that government consumption is derived from other types of expenditures as a sum of other non-market production (intermediate consumption, compensation of employees, consumption of fixed capital and net taxes) and market production purchased by government from market producers for households (notably health-care service).<sup>19</sup>

<sup>18</sup> Due to rounding, the sum can not be equal to 100.

<sup>19</sup> For more detailed analysis, see Pulpanova (2013).

**Figure 4** Structure of government expenditures (% of GDP), Czech Republic, 2008–2012

Source: CZSO

Final consumption expenditure includes individual and collective consumption expenditures of government, whereas the production of consumer goods is either the result of the productive activities of the general government sector or any sector of the market producers. In case of government production, goods and services produced by government units are recorded as if they are subsequently demanded by government. If these goods are consumed by individual households, then this fact is recorded as natural social transfers provided to households (actual households consumption).

Gross fixed capital formation (investments) of the government is another key indicator with direct influence on business cycle and productive capacity of the economy. From compilation point of view, this aggregate belongs to the most difficult ones. The investment expenditures are naturally not identical with the change in the stock of government assets; there is the need to eliminate other influence on the stock such as transfers of assets in the form of capital injections, asset valuation changes and other volume changes. Furthermore, the situation is complicated by different concepts of small long-term intangible and tangible fixed assets and absolute freedom entities to include or not to include interests accrued at a time of acceptance into the purchase price of the property if it is financed by debt instruments.

Level of government investments will be changed in the revision due to methodological changes.<sup>20</sup> First, ESA2010 contains the expansion of the asset boundary towards to results of research and development activities (intellectual property). In case of non-market producers, the result is a reduction in consumption expenditures with corresponding increase in investment expenditures. Second, the expenditures of government on weapons systems are newly recognized as capital formation; thus this change also brings a “switch” between consumption and investment expenditures.

According to the revised ESA methodology and the amendment of the EDP regulation, it is no longer required to make specific adjustment of deficit/surplus by interest on swaps (IRS) and transactions

<sup>20</sup> Overview of key changes is can be found in the Manual on the Changes between ESA 95 and ESA 2010 (2013).

under forward rate agreements (FRA). These transactions are treated only as financial transactions. The reason for the adjustment was the effort to eliminate the incentive to substitute deficit and debt by debt managers. The revised methodology therefore requires recording (also for the purposes of notification) the amount of interest in compliance with conditions prevailing (in view of the borrower) at a time of debt issuance (cost of borrowed capital) without affecting subsequent hedging transactions.

Nominal level of government revenues and expenditures can be further influenced by rerouting, as already mentioned above. There are cases where a government intervention takes the form of forced transactions between two non-government organizations and the flows do not “flow” through government accounts, even though they resulted from the implementation of government policy. Examples are obligatory payments in the form of support for renewable energy resources paid within the price for electrical energy, compulsory payments paid by banks to the Deposit Insurance Fund or some transactions carried out by the CMZRB on behalf of the government.

Rerouting payments relate also to payments between government units. For instance, payments from the State budget to the health insurance companies for persons insured by the State are rerouted through households’ accounts (not through transfer within government) in form of social assistance benefits. However, rerouting of flows does not affect the balance, of course, affects the nominal level of the aggregates.

At the end of the chapter it is worthy to mention, that revised ESA and the MGDD does not make any difference between B.9 in the sector accounts and for the EDP purposes.

### **3.2 Government debt**

Debts of general government sector became the central topic of analytics and politicians. However, the nature of the indicator is often poorly understood. Before we proceed to the detailed description we should briefly recall the difference between state debt and government debt. Government debt represents broader concept than “state debt”; in case of government debt, also indebtedness of other central government units, municipalities or semi-budgetary institutions is taken into consideration.

Government debt has further two basic features. Firstly, government debt is compiled on gross basis, i.e. as a sum of debt financial instruments on the liability side of the balance sheet. Secondly, debt is presented on consolidated basis, i.e. value of government debt financial instruments held by government as assets is not taken into account; in other words, debt incurred and, at the same time, “held” by another units classified in the sector of government institutions is mutually consolidated, i.e. debts of this nature are not shown in debt statistics.

According to current methodology, debt for EDP purposes is obtained as a sum of following instruments on the liability side of balance sheet:

- a) *currency and deposits (AF.2)* – in the Czech Republic, it was the case of Czech Consolidation Agency (classified in S.13 in period from 2001 to 2006) which was closed down on 31 December 2006; issuance of currency or receiving of deposits by government institution is quite common practice across Europe, especially due to coins issued by the ministries;
- b) *debt securities (AF.33 according to ESA95, AF.3 in the manual ESA2010)* – bills of exchange and bond of all maturities; it concerns not only treasury bills and state bonds, but also bonds issued by Railway Infrastructure Administrating (RIA), municipalities or previous transformation institutions or by the National property Fund;
- c) *loans (AF.4)* – this item contains mainly received bank loans, repayable financial assistances, assumed debts, called guarantees or loans result from financial leasing; also trade credits irrevocably transferred by suppliers to a financial institution are classified as loans, the same holds true for trade credits as defined in par. 20.132 in ESA 2010.

As it is evident, definition of government debt for the EDP purposes does not include all instruments being classified as liabilities in the government sector accounts. It is also evident that debt for EDP

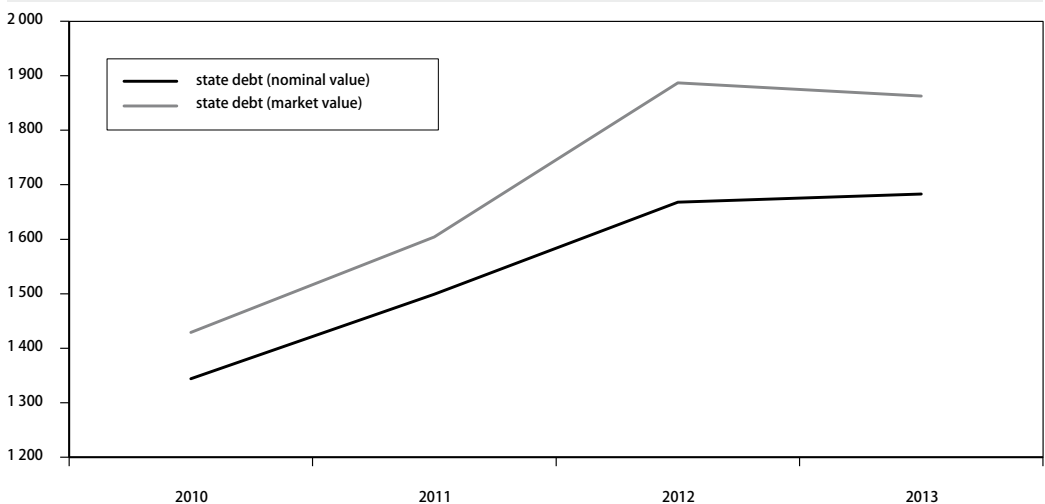
purposes does not include especially derivatives or trade credits. Currently, the debate is concentrated mainly on trade credits. In some countries, amount of these liabilities (i.e. loans) is quite significant and can be treated as kind of debt. But at the same time, primary data on trade credit are of different quality across countries. At the moment, an inclusion of trade credits into Maastricht debt is proposed after five year “trial” period.

#### 4 ISSUE OF DEBT VALUATION

Way of the debt instruments evaluation makes an important difference between information provided by the sector government accounts and the debt for the EDP purposes (“Maastricht debt”). On the one hand, the ESA requires to value assets and liabilities on the base of market prices; market value of debt then represents theoretical amount of financial resources needed to buy back all debt instruments from the market. On the other hand, Maastricht debt is presented in nominal value, i.e. as a sum of funds that the debtor is obliged to repay at maturity. It is worth to mention, that also interests accrued are not part of the Maastricht debt, main reason is questionable comparability of calculation method across countries.<sup>21</sup>

Another key difference is the treatment of cross currency swaps (CCS) contracted for elimination of currency risk. Since national accounts are compiled in domestic currency, there is the need to convert foreign currency debt to domestic currency. While the ESA requires using market exchange rate prevailing at the market, for the EDP purposes it is required to use exchange rate agreed in the swap contract (contractual rate). As a result, in the sector accounts (ESA95) CCS used for hedging of existing debt are shown separately under the item AF.34 (AF.7 according to new ESA2010). But for EDP purposes, CCSs are part of the item securities other than shares (AF.33, AF.3

**Figure 5** State debt on nominal and on market basis, Czech Republic



Source: CZSO, MoF

<sup>21</sup> Nominal value equals the contractually agreed amount that the government will have to refund to creditors at maturity. For instance, the GFSM (government statistics standard of the IMF), this method of valuation is known as “face value”. This means, in particular, that the government debt is not affected by changes in market yields, and excludes unpaid accrued interest. However, indicators of GFS (assets and liabilities) transmitted to the IMF by MoF are recorded in nominal value and also in face value.

respectively) which is included in the Maastricht debt. Thus, foreign currency debt is converted into domestic currency at exchange rate fixed in derivative contract.

Different ways of valuation indicates that value of debt in ESA and for EDP procedure must deviate to some extent. These differences have been so far caused mainly by accrued interests and different treatment of CCS. Within the revision of ESA, CZSO implemented into accounts an estimation of market value of the state debt which is generally based on the number of issued bonds and its prices quoted at the market. As a result, government debt in sector government accounts (ESA) reaches higher level than that for the EDP purposes. Due to lack of information, these adjustments have not yet been applied to debt of municipalities which are recorded de facto at nominal value in the sector accounts and also in the EDP tables.

Following chart indicates the extent of differences between the State debt valued at nominal value and at market prices.

Valuation of public debt in the PSA is based on rules for the sector accounts (ESA), i.e. on the market basis. Currently published data on public debt will be revised in line with the revision of the state (market) debt in the sector accounts.

## 5 RELATION BETWEEN DEFICIT AND DEBT

Relation between deficit and change in debt is described by the stock-flow adjustments (SFA). Due to the fact that SFA includes also statistical discrepancy, it is also an element representing the quality of statistics closely monitored by Eurostat (it is the element resulting from quality of accounting and statistical data sources). Thus, the relation between deficit and debt is not straightforward; leaving aside the case of statistical discrepancy, following factors come into play between the change in government debt and the government deficit/surplus:

- *operation with financial assets and liabilities* – it concerns pure financial transactions having no relation to government deficit or surplus;
- *other capital transfers, payable, which do not linked with debt instruments (e.g. forgiveness of receivables or money restitutions);*
- *other changes in volume and in prices* – among other, this group covers factors as changes in sector classification, exchange rate changes or error corrections.

It is evident that change in government debt is not automatically linked to any need to finance the government deficit. In other words, deficit is not necessarily financed by issue of debt instrument or any rise in debt is not inevitably result of deficit financing. As an example we can mention the situation when government institutions issue bonds because of existing risk of worsening market condition and show concurring expectations that it will be necessary to issue bonds in future to finance coming deficits. In such case, emission of bond is not linked to deficit at the time of issuance. Another example is reclassification of units between non-government sector (especially public) and government that can cause a rise in debt.

Since such situation occurs very frequently, the gross nature of debt does not offer fully reliable information on economic behaviour of government, on its short-term solvency or its access to the financial markets. Rise in debt on the liability side can be fully matched by change in the amount of assets owned by the government, as it is indicated in the examples mentioned above. The European Commission has thus opened the discussion on potential publication of “*net government debt*”; in this kind of indicator, value of debt is adjusted by appropriate value of assets.<sup>22</sup>

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<sup>22</sup> Definition of assets remains open. First proposed option is to deduct from the Maastricht debt the value of corresponding assets on the asset side of government sector, i.e. currency and deposits, debt securities and loans. Problem with valuation of loans, possibly deviating across countries, can be overcome by the second option, i.e. to take into account only currency and deposits and debt securities held by government institutions.

Advantage of the indicator of “net debt” is supposedly higher ability to show borrowing need of government or its ability to finance deficit without need to issue debt instruments. Even if this indicator could be analytically helpful, many obstacles remain. Main point here is the way how assets are valued, especially assets not traded at the market. Different approaches across countries can be very harmful for international comparability of final data. Simultaneously, the range of factors affecting the debt over time would be widened by factors having impact on the value of assets (interest rate, market prices, etc.); this can make, on the contrary, analysis of debt more complicated. Anyway, the methodology of net debt calculation has not been fully harmonised yet.

## CONCLUSION

CZSO compiles and publishes the indicators for both the public and government sector (not only for the units under the State budget). Indicators for the government sector are then key subjects of the Excessive Deficit Procedure. The main aim of the paper was to clarify the nature of the fiscal indicators provided by the national accounts which are often mistakenly understood. We explained, from the perspective of the national accounts, the differences between the concept of public and government sector, and between the concepts of the government and the state.

As was described above, “public sector” is broader concept covering not only government institutions but also public financial and non-financial corporations being under control of government units. Indicators of “public sector” are getting more attention due to inclusion of possible financial threats for the government finance. Thus, the clarification of the terms “veřejný” and “vládní” in the Czech legal system is becoming more important due to possible linkage to the legal documents concerning budgetary discipline, or accounting acts or decrees.

Government statistics undergoes important changes due to ongoing revision related to the implementation of revised methodology ESA. Most important methodological changes lead to reclassification of particular government expenditures as investments and to treating expenditures on interest rate swaps as financial transactions. Within the revision the CZSO also implemented changes having impact on the level of government aggregates as described in the previous sections. Among the most important issues being still under discussion we could finally mention the inclusion of trade credits in the government (Maastricht) debt and publication of net government debt.

## References

- CZSO. *GDP and national accounts data* [online]. Prague: Czech Statistical Office, 2014. [cit. 10.4.2014] <[http://www.czso.cz/eng/redakce.nsf/i/gdp\\_national\\_accounts\\_ekon](http://www.czso.cz/eng/redakce.nsf/i/gdp_national_accounts_ekon)>.
- CZSO. *Přehled metod, postupů, zdrojů použitých při sestavení deficitu a dluhu a založených na sestavení sektoru vládních institucí* (An overview of methods, procedures, resources used by the preparation of deficit and debt, based on a general government sector) [online]. Prague: Czech Statistical Office, 2013. [cit. 20.5.2014] <[http://www.czso.cz/csu/redakce.nsf/i/prehled\\_metod\\_postupu\\_zdroju\\_pouzitych\\_pri\\_sestaveni\\_deficitu\\_a\\_dluhu\\_a\\_zalozenych\\_na\\_sestaveni\\_sektoru\\_vladnich\\_instituci\\_podle\\_esa95/\\$File/prehled\\_metod\\_a\\_zdroju\\_edp\\_2013.pdf](http://www.czso.cz/csu/redakce.nsf/i/prehled_metod_postupu_zdroju_pouzitych_pri_sestaveni_deficitu_a_dluhu_a_zalozenych_na_sestaveni_sektoru_vladnich_instituci_podle_esa95/$File/prehled_metod_a_zdroju_edp_2013.pdf)>.
- EUROPEAN COMMISSION. *Commission Regulation 1500/2000 on general government expenditure and revenue*.
- EUROPEAN COMMISSION. *Commission Regulation 995/2001 on taxes and social contributions*.
- EUROPEAN COUNCIL. *Council Regulation (EC) No 2223/96 of 25 June 1996 on the European system of national and regional accounts in the Community*.
- EUROPEAN PARLIAMENT. *Regulation 2558/2001 on settlements under swaps arrangements and under forward rate agreements*.
- EUROPEAN PARLIAMENT. *Regulation (EU) No 549/2013 of the European Parliament and of the Council on the European system of national and regional accounts in the European Union (ESA2010)*.
- EUROSTAT. *Manual on Changes between ESA 95 and ESA 2010* [online]. Luxembourg, 2013. [cit. 20.5.2014]. <[http://epp.eurostat.ec.europa.eu/portal/page/portal/esa\\_2010/documents/Manual\\_Changes\\_ESA95\\_ESA2010.pdf](http://epp.eurostat.ec.europa.eu/portal/page/portal/esa_2010/documents/Manual_Changes_ESA95_ESA2010.pdf)>.
- EUROSTAT. *Manual on Government Deficit and Debt (MGDD) Implementation of ESA95*. Luxembourg, 2013 edition.

EUROSTAT. *The statistical recording of operations undertaken by the European Financial Stability Facility* [online]. Luxembourg: Eurostat, 2011. <[http://epp.eurostat.ec.europa.eu/cache/ITY\\_PUBLIC/2-27012011-AP/EN/2-27012011-AP-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/2-27012011-AP/EN/2-27012011-AP-EN.PDF)>.

IMF. *Public Sector Debt Statistics, Guide for Compilers and Users*. Washington D.C.: International Monetary Fund, 2013.

MoF. *Statistics*. [online]. Prague: Ministry of Finance, 2014. [cit. 10.4.2014] <<http://www.mfcr.cz/en/statistics>>.

PULPANOVA, L. V. Understanding Government Consumption. *Statistika: Statistics and Economy Journal*, 2013, 93(2).