

Economic Behaviour of the General Government and Sustainability of Public Finances – Comparative Analysis of the Czech Republic and Selected EU Countries

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Abstract

The economic behaviour of the general government sector is manifested in the indices such as the government revenue, government expenditure, government deficit and government debt. It is an important tool for evaluating the sustainability of public finances and the orientation of the economic policy. All developed countries were hit by the crisis in 2009 and its continuation in the years 2011 through 2013; it was reflected, in particular, in high values of the government deficit and debt. The European economies have gotten out of this crisis by now, but a question remains: what means did the government institutions use in the respective countries to cope with the unfavourable values of the deficit (and debt)? In this paper, we will make use of the data on the national accounts to show the economic evolution of the general government in the Czech Republic after 2009 and compare it with certain other EU countries.

Keywords

National accounts, general government, government deficit, government debt, sustainability of public finances

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INTRODUCTION

The general government is one of the institutional resident sectors. The importance of that sector, measured by its proportion in the gross domestic product, ranks as third, after the non-financial corporations and households. Nonetheless, its economic results are monitored with great interest not only by the creators of the economic policy but also by the top executive authorities in each country. Both the national and EU institutions carefully watch the deficits and debts of the general government.

In each calendar year, the evolution of the government deficit results in a relationship between its revenue and expenditure,⁴ which sensitively respond to changes in any index entering into the total revenue and total expenditure. The evolution of the government debt depends not only on the year-to-year government deficit but also on the ability and options the general government has at its disposal to pay up the debt, as well as on other factors based on the definition of the debt. At times of favourable economic development, the government revenue should be growing faster than their expenditure (possibly even create a government surplus), their debts should (under comparable conditions) be decreasing. On the contrary, at times of recessions/crises, the general government sector falls into a deep deficit, and the debt suddenly goes up. A solution should include revenue growing faster than expenditure and stimulating economic growth. However, if the revenue does not grow fast enough, the only remaining way of decreasing the deficit is that of limiting the expenditure. This way, as a rule, leads to inhibiting the economic development and the consequent slowdown in the recovery of the national economy as a whole (which was the case of the Czech Republic in 2012 and 2013). An exception from the deficit-decreasing concept prevailing at times of reduced economic performance, may include preference on investment activities, in particular, those focused on new technologies, science, research, transportation infrastructure, etc. – such activities may temporarily increase the deficit but are aimed at its long-term reduction, and therefore at reducing the debt.

The monetary and financial crisis that, about ten years ago, hit all developed countries was manifested in the Czech Republic and other EU countries by a drop in economic activities (decreasing GDP) and a sudden deterioration of the government deficit (in absolute numbers and relatively with respect to the GDP value). The transition to the recovery stage was different in each country; it was especially complicated and lengthy in the Czech Republic. Despite that factor, in the Czech Republic, the general government's activities resulted in surplus as early as in 2016. In the present paper, we will have a look at the path the Czech general government took after 2009 and the methods of coping with their respective economic crises chosen by general governments in other EU countries. Our analysis will be based on the data from the national accounts of the Czech Republic and of selected EU countries.

1 THE TASK AND MISSION OF THE GENERAL GOVERNMENT SECTOR⁵

The general government sector puts together all institutional units whose main economic function is the provision of non-market services and/or the distribution of the national income and worth, as well as the units administering the social security funds. These units' main scope of activities follows from the mandatory direct and indirect payments (taxes and social contributions) from units ranging over all sectors. The institutional units included in this sector are non-market producers, whose production goes to the individual and collective final consumption. This sector mainly contains the state with all its authorities having general and specific areas of competency and directly subordinated to the state administration. It further contains social security authorities, local administration and different institutions directly governed by them; mainly organisations that are independent institutional units and, to a prevailing extent, funded by the state (from the central or local budget).

⁴ The revenue and expenditure of the general governments are, throughout the entire text, understood as entered on the national accounts, that is, based on the accrual and not the cash principle.

⁵ Loosely following the contents of Hronová, Sixta, Fischer, Hindls (2019).

The units in the general government sector mainly provide non-market services. However, this sector's production also has its market portion: in its institutional units, we can find those producing goods and market services. The proportion of this market output is negligible in comparison with the volume of the non-market output (this proportion in the Czech Republic does not get over 7% on a long-term basis). The economic significance of the general government sector – measured by the proportion of its gross value added in the gross value added of the total economy – is between 10% and 20% in the EU countries. There is large variability in this value among the EU countries depending on the different scopes of the production created and provided in favour of the society as a whole. A high proportion prevails in the "traditional social states" such as France and Scandinavian countries (around 18%–20%). The general government sector's proportion in the gross value added of the total economy in the Czech Republic fluctuates around 15% (the EU-28 average value is between 14% and 15%).

The main resources for funding the general government's activities come from the mandatory payments, which the other sectors must pay to it, that is, taxes and social contributions. Out of such resources, the government mainly:

- provides the funding for its activities – this is mainly seen in the intermediate consumption and compensation of employees indices;
- redistributes the income by providing subsidies and investment grants, as well as social benefits;
- ensures the functions of the national economy via investments into the infrastructure, environment, science and research, and defence and security;
- provides the funding to the health-care system, education, culture and sports – such funding is manifested in the final consumption expenditure indices.

The balance of the general government (surplus/deficit) is, in every year, given by a difference between its revenue and expenditure. On the national accounts, this result is recorded as its net lending/borrowing; the proportion of that index in the GDP is one of the so-called Maastricht criteria. From the above-mentioned considerations, it is clear that the economic result will be found directly on the general government sector's account, unlike the values of its revenue and expenditure – those are not explicitly stated in the annual report of the national accounts⁶. The rules for computing the general government's revenue and expenditure values⁷ are based on the data entered on the sector's account so that their difference corresponds to the net lending/borrowing with respect to the realistic amounts of the total revenue/expenditure.

2 GOVERNMENT REVENUE AND EXPENDITURE⁸

Net lending/borrowing of the general government sector is the balance of the non-financial and financial account of that sector. When identifying which indices should be included in the government revenue and which in its expenditure, we have to keep in mind that certain indices occur twice on the general government's account (individual consumption expenditure vs. social transfers in kind, or collective consumption expenditure vs. actual final consumption); moreover, some of them do not have a character of real monetary flows (non-market output and final consumption expenditure). For this reason, it is necessary to exactly say which items and to what extent will actually be included in the government revenue and expenditure (in the sense of the national accounts); and we must first identify *internationally comparable values of the government revenue and expenditure*.⁹

⁶ The Czech Statistical Office, as a rule, publishes such data only relative with respect to the GDP value; in certain countries (such as France), data of selected items and total amounts of revenue and expenditure are published with the frameworks of the so-called sector analyses.

⁷ Cf. ESA 2010, Chap. 20.

⁸ Loosely following the contents of Hronová, Sixta, Fischer, Hindls (2019).

⁹ The international comparability is based on the rules implied by the ESA 2010 Standard, Chap. 20.

The first problem, i.e., the double occurrence of final consumption expenditure, can be resolved easily: we exclude from the total expenditure the social transfers in kind and the actual final consumption from among the indices present on the "uses" side of the general government sector's account;¹⁰ we only leave there – with an exception mentioned below – the final consumption expenditure. The second problem is in reflecting the non-market output in the total revenue and the final consumption expenditure in the total expenditure because the said indices do not correspond to real receivables (payables) and their inclusion in the total values would, as an "artefact", make those total values apparently higher than they really are. The requirement that the total values of the revenue and expenditure should be realistic is very important because in the Czech Republic the government revenue is included in a basis for the Derivation of Expenditure Frameworks of the State Budget and State Funds, submitted by the Ministry of Finance of the Czech Republic within the framework of the Budget Strategy for the Public Institutions Sector.¹¹

If the government revenue included the entire value of the non-market output (as given on the production account; let us denote it by $P.13$),¹² the overall amount of the revenue would be overvalued. The non-market output does not generate any revenue because the general government does not "sell" this type of production. It is concerned with the value of the goods and services provided by the general government to the society as a whole for free (or nearly for free). The government revenue, therefore, includes not the total value of this non-market output but only its part representing the actual income generated by the non-market activities. These are the so-called *payments for non-market output* ($P.131$). It is the part of the non-market output provided to households; in return, the general government obtains the payments that correspond to the relevant revenue item. In other words, the payments for the non-market output equals a remainder after "subtracting" the "real" non-market output for which the general government will not obtain any payments. This "real" non-market output consists of the collective consumption expenditure ($P.32$) and the social transfers in kind–non market production ($D.631$). For the payments for non-market output ($P.131$), it is thus true that

$$P.131 = P.13 - (P.32 + D.631). \quad (1)$$

If the entire final consumption expenditure were included in the total expenditure, the latter would again be overvalued. Hence only the "real expense" is entered into the expenditure, which equals the social transfers in kind–purchased market production ($D.632$). As a logical consequence the value that enters into the final balance of a difference between the government revenue and government expenditure ($P.131 - D.632$) thus equals a value obtained by inclusion of the total non-market output ($P.13$) in the government revenue and the final consumption expenditure ($P.3$) in the government expenditure; at the same time, the total values of expenditure and revenue are not overestimated. In other words, the balance (expressed as the net lending/borrowing value) is the same as if we included the entire final consumption expenditure ($P.3$) into the total expenditure and the non-market output from the production account ($P.13$) into the total revenue. The following formula holds

$$P.131 - D.632 = (P.13 - P.32 - D.631) - D.632 = P.13 - P.3. \quad (2)$$

¹⁰ Altogether they correspond to the value of the final consumption expenditure.

¹¹ The "public institutions sector" is a term introduced in Act No. 23/2017 Coll., on the budget responsibility rules for the general government sector (S.13, cf. ESA 2010). Nevertheless, the terms "public institutions" pursuant to Act No. 23/2017 Coll. and "general government" pursuant to ESA 2010 both refer to the same group of subjects; for more details, cf. Vebrová and Rybáček (2018).

¹² For the indices here and in Formulas (1) and (2) and in Table 1 we make use their national account codes – cf. ESA 2010.

To sum up the considerations mentioned above, the indices from the non-financial account of the general government are included in the government expenditure: intermediate consumption + compensation of employees + taxes on production and imports (payable) + subsidies (payable) + property income (payable) + current taxes on income and worth (payable) + social benefits other than social transfers in kind + other current transfers (payable) + capital transfers (payable) + gross capital formation + acquisition less disposal of non-produced assets + social transfers in kind–purchased market production.

The government revenue includes the following indices taken from the non-financial account of the general government: market output + output for own final use + taxes on production and imports (receivable) + subsidies (receivable) + property income (receivable) + current taxes on income and worth (receivable) + social contributions + other current transfers (receivable) + capital transfers (receivable) + payments for non-market output. Table 1 shows the values of the indices entering the total amounts of the government revenue and expenditure taken from the national accounts of the Czech Republic in 2018.

Table 1 Items of the government revenue and expenditure in the Czech Republic in 2018 (mil. CZK, current prices)

Code	Expenditure		Code	Revenue	
P.2	Intermediate consumption	324 994	P.11	Market output	28 063
D.1	Compensation of employees	520 623	P.12	Output for own final use	34 988
D.29	Taxes on production and imports	1 116	D.2	Taxes on production and imports	658 487
D.3	Subsidies	120 684	D.4	Property income	35 274
D.4	Property income	40 444	D.5	Current taxes on income and worth	417 057
D.5	Current taxes on income and worth	4 829	D.61	Social contributions	833 820
D.62	Social benefits ¹³	628 600	D.7	Other current transfers	50 342
D.7	Other current transfers	102 912	D.9	Capital transfers	43 216
D.9	Capital transfers	33 912	P.131	<i>Payments for non-market output</i>	109 575
P.5	Gross capital formation	224 233			
NP	Acquisition less disposal of non-produced assets	-1 606			
D.632	<i>Social transfers in kind – purchased market production</i>	162 654			
Total expenditure		2 163 395	Total revenue		2 210 822
Revenue – Expenditure		47 427			

Explanations: From Formula (1), it is true that: $P.131 = P.13 - (P.32 + D.631) = 1\,011\,052 - (500\,191 + 401\,286) = 109\,575$. From Formula (2), it is true that: $P.131 - D.632 = P.13 - P.3 = 109\,575 - 162\,654 = 1\,011\,052 - 1\,064\,131 = -53\,079$, where $P.3 = D.631 + D.632 + P.32 = 401\,286 + 162\,654 + 500\,191 = 1\,064\,131$ and $P.13 = 1\,011\,052$.

Source: <www.czso.cz>

The internationally comparable values of the government revenue and expenditure enable us to carry out time- and space-based analyses of relative indices. As already pointed out in the Introduction, we will

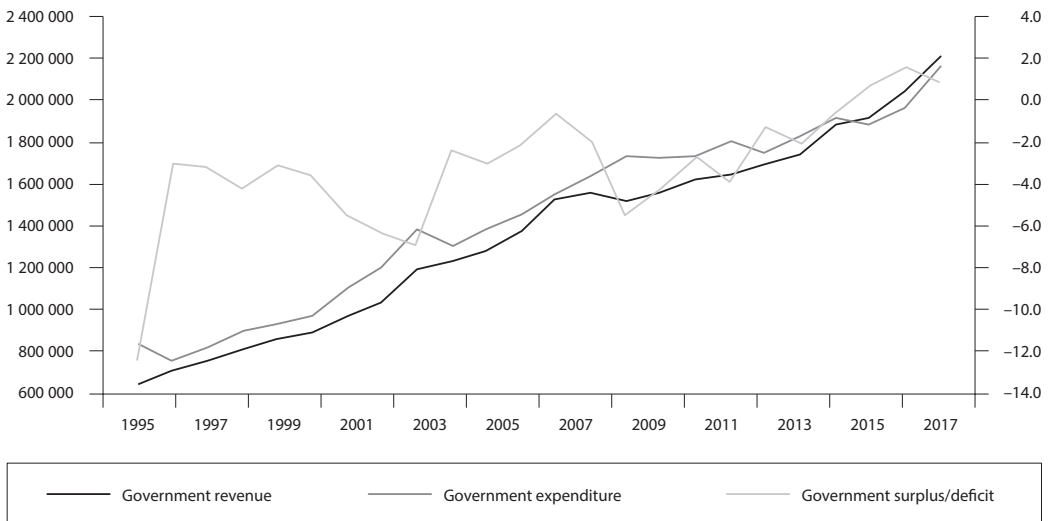
¹³ Social benefits other than social transfers in kind.

show the way in which the general government in the Czech Republic coped with the economic deficits after 2009 and compare it with certain other EU countries.

3 ECONOMIC BEHAVIOUR OF THE GENERAL GOVERNMENT SECTOR IN THE CZECH REPUBLIC

Having a look at the long-term evolution (since 1995) of the government revenue and expenditure in the Czech Republic, we can say that the current-price revenue values were growing in the entire period in question except for 2009, when the year-to-year decrease (by 32.6 bil. CZK, i.e., by 2.1%) was predominantly caused by a drop in collected income tax and social contributions due to a drop in economic activities (with a year-to-year decrease in the GDP by 4.8%). The government expenditure in current prices has grown every year except for years 1996, 2004, 2010, 2013, and 2016. The decreasing expenditure values in 2004, 2010, and 2016 were caused by a significant drop in the gross fixed capital formation (by 62.6 bil. CZK, i.e., by 28.8% in 2004; by 34.6 bil. CZK, i.e., by 14.6% in 2010; and by 81.1 bil. CZK, i.e., by 34.3% in 2016). The decreasing expenditure values in 1996 and 2013 were mainly caused by a decrease in the amount of the payable capital transfers (by 166.9 bil. CZK, i.e., by 77.0% in 1996; and by 85.1 bil. CZK, i.e., by 67.5% in 2013). In both of these instances, extraordinary circumstances were connected with the economic and political transformation in the Czech Republic – the amount of other capital transfers included in 1995 the value (of approx. 190 bil. CZK) of the shares transferred to households within the framework of the second wave of the Voucher Privatisation; within the so-called Church Restitutions, churches obtained the first instalment of 59.5 bil. CZK in 2012; smaller instalments followed as late as 2014 (22.2 bil. CZK); 2015 (28.0 bil. CZK); and 2016 (15.7 bil. CZK); they, however, did not significantly affect the evolution of the total government expenditure. Figure 1 illustrates the evolution of the mutual relationship between the government revenue and expenditure in current prices.

Figure 1 Revenue and expenditure (mil. CZK, current prices) and deficit/surplus (in % of GDP) of the general government in the Czech Republic



Source: <www.czso.cz>

The mutual relationship between the government expenditure and revenue values is reflected in the government net lending/borrowing, which is a proportion of the government deficit/surplus expressed

in % of the GDP.¹⁴ Let us identify the causes for the significant fluctuations in this index value: except for 2009, they are again given by the extraordinary circumstances related to the economic and political transformation in the Czech Republic. Apart from the already mentioned years 1996 (when the deficit amounted to 12.4% of GDP) and 2012 (with a deficit at 3.9% of GDP), high values of the deficit occurred in 2001 through 2003 due to the increased expenditure included in other capital transfers. Namely, there were concerned with the stabilisation of the banking sector at about 100 bil. CZK in each of the above-mentioned years with the consequent deficit values at more than 6% of GDP in 2002 and 2003, and 5.5% in 2001.

In 2009, the high value of the government deficit (5.5% of GDP) was caused by a drop in the economic performance of the Czech Republic, reflected in a year-to-year decrease in the revenue by 2.1% while the expenditure went up by 6.2%. Since that year, the deficit with respect to the GDP has been going down (except for 2014 when the collected excise taxes were lower on the revenue side, and the paid Church Restitutions were higher – cf. above). Table 2 illustrates the evolution of the government's revenue, expenditure, deficit/surplus and debt in the Czech Republic.

Table 2 Selected indices of the general government, Czech Republic (in % of GDP)

Index	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Government surplus/deficit	-0.7	-2.0	-5.5	-4.2	-2.7	-3.9	-1.2	-2.1	-0.6	0.7	1.5	0.9
Government revenue	39.7	38.7	38.7	39.3	40.3	40.5	41.4	40.3	41.1	40.2	40.5	41.5
Government expenditure	40.4	40.6	44.2	43.5	43.0	44.5	42.6	42.4	41.7	39.5	38.9	40.6
Government debt ¹⁵	27.5	28.3	33.6	37.4	40.0	44.5	44.9	42.2	40.0	36.8	34.7	32.6

Source: <www.czso.cz>, the authors' own calculations

The considerations mentioned above imply that the fluctuations in the values of the government revenue and expenditure, as well as the deficit, were often caused by extraordinary circumstances not directly related to the economic behaviour of the sector. Let us now have a closer look at the situation after 2009 and study the factors that significantly affected the evolution in the government balance.

The government revenue (in current prices) went up by 45.2% in 2018 as compared with 2009; the same comparison in the expenditure amounted to 24.5%. The most quickly growing components of the expenditure were taxes on production and imports¹⁶ (higher by 54.9%), current taxes on income and worth (higher by 49.9%), and the social contributions (higher by 49.0%).¹⁷ The volume of the collected taxes¹⁸ from production and imports was growing in the entire period in question after 2009 (with the sole exception of 2014 – a decrease by 2.2%). However, the high growth rates of the collected current taxes and social contributions are mainly implied by the low comparison base of 2009 (with a year-to-year drop in the amount of the collected current taxes by 11.1%); the volume of current taxes equal to that

¹⁴ The government deficit/surplus proportion with respect to the GDP is one of the so-called Maastricht criteria; its value should not exceed a level of 3%.

¹⁵ This is consolidated gross debt for the purposes of the EDP (Excessive Deficit Procedure); for more details, cf. Hronová, Sixta, Fischer, Hindls (2019).

¹⁶ The value added tax has the highest proportion in the taxes on production and imports.

¹⁷ The most quickly growing item of the expenditure in the period 2009–2018 was that of the miscellaneous current transfers (higher by 71.3%); however, the amount of this item is approx. 6% of the social contributions' volume.

¹⁸ Here and below we use the term "collected taxes" even if the national accounts do not record data based on cash principle.

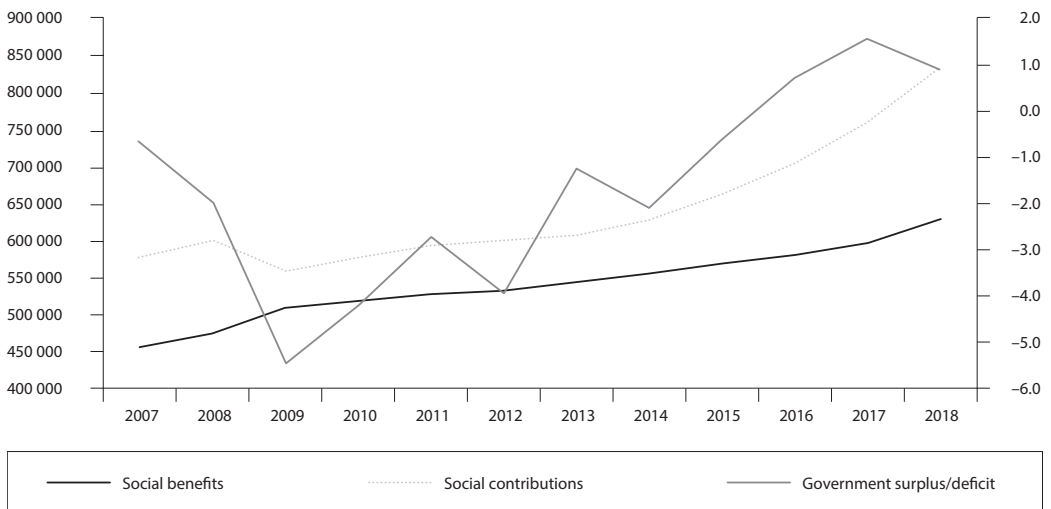
of the pre-crisis year 2008 occurred as late as in 2013. A similar phenomenon is valid for the collected social contributions: a year-to-year decrease in the social contributions amounted to 6.6% in 2009; the amounts of the social contributions equal to that of 2008 was achieved as late as in 2012.

The most important items in the government expenditure are social benefits other than social transfers in kind (hereinafter called just social benefits for the sake of simplicity).¹⁹ The volume of the social benefits payable was continuously growing in the entire period in question (higher by 23.5% as compared with 2009) due to changes in the social policy and the ageing of the population. The most quickly growing component of the expenditure was that of the subsidies (higher by 75.0%) and miscellaneous current transfers (higher by 49.7%). Their total volume amounts to about a third of the expenditure incurred on social benefits. The amount of the compensation of employees also grew faster (higher by 47.9%) than the total expenditure especially due to high year-to-year increases in 2017 and 2018 (on average, by approx. 10% a year) in connection with the salary increases in public institutions.

The opposite direction (decrease in expenditure) can be observed in the gross fixed capital formation (down by 7.8%) and property income, or interest, related to gradually decreasing the government debt (down by 17%). However, a drop in investments into fixed capital cannot be viewed as a positive feature.

A large difference between the revenue growth and the expenditure growth of the general government in the Czech Republic (20.7 p.p. – percentage points) was, logically, manifested in the gradual improvement of the government balance and the consequent decrease in the government debt (cf. Table 2). Let us now have a look at the evolution of the most important items occurring within the government expenditure, and at the related evolution of the government balance (deficit/surplus).

Figure 2 Social benefits (payable) (mil. CZK, current prices) and government deficit/surplus, Czech Republic (in % of GDP)²⁰



Source: <www.czso.cz>

¹⁹ Social benefits paid in old age, invalidity, disease, maternity, unemployment, occupational accident or disease, etc., within the framework of the mandatory social security insurance. The general government is the payer and households represent the payee.

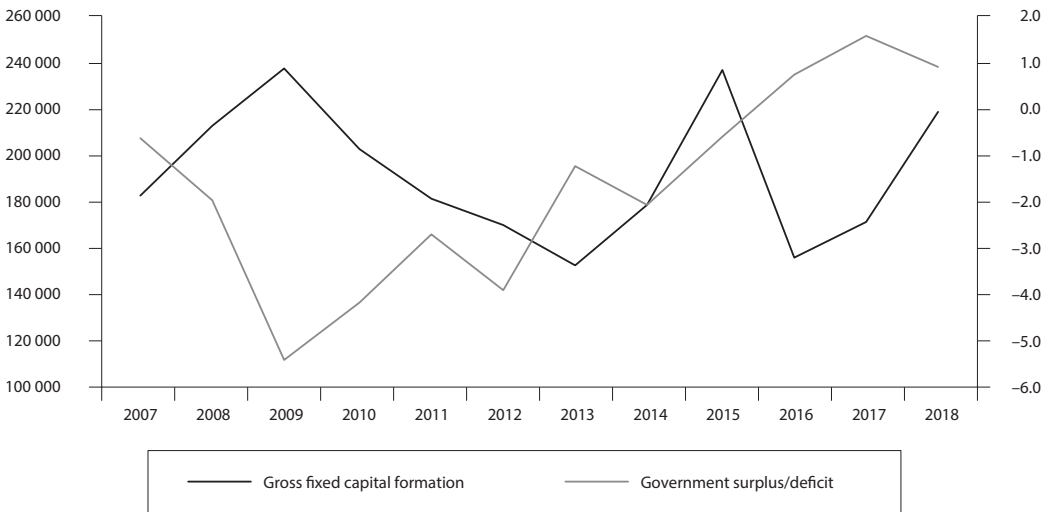
²⁰ For a better idea of the development of the volume of social benefits (payable), we also added the development of the volume of social contributions (receivable) to the chart.

The continuity of the social benefits' growth (as the most important component of the expenditure) is not compliant with the evolution of the government balance – cf. Figure 2. A similar result, showing a low level of mutual dependency, is obtained when comparing this balance with the compensation of employees (as the second most significant item of the government expenditure). An analogous conclusion is valid for the instance of the intermediate consumption, even though its evolution was not as smooth as that of social benefits and compensation of employees.

Investments into fixed capital represent a factor that significantly influences the government balance. Out of those, the largest proportion (three-fifths to three-quarters on a long-term average) goes to buildings and constructions, including the transportation ones. Figure 3 illustrates the sensitive response of the government deficit/surplus to the investments into the fixed capital.

The gross fixed capital formation does not cover a dominant part of the government expenditure (as compared with social benefits and compensation of employees); nevertheless, the influence of the investments on the government balance is obvious. This phenomenon is also implied by the fact that the social benefits and compensation of employees are mandatory expenses whose amounts are given by legal regulations and agreements. The investments into the fixed capital, i.e., the most significant part of the investment volume, can, to a certain extent, be controlled (boosted or inhibited) based on the expected evolution of the government revenue and expenditure.

Figure 3 Gross fixed capital formation by the general government (mil. CZK, current prices) and the government deficit/surplus, Czech Republic (in % of GDP)



Source: <www.czso.cz>

Figure 3 clearly implies that the growing gross fixed capital formation (GFCF) is reflected in a higher value of the government deficit. An exception is the year 2015 when the year-to-year growth of investments into the fixed capital was 32.8% while the general government's deficit went down by 1.5 p. p. (to a value of 0.6%). A reason for that extraordinary situation was a year-to-year growth of the government revenue by 8.5% (mainly due to a growing volume of the investment subsidies from the EU, revenues from taxes on products, and collected social contributions; the growth of those was implied by the growing wages). Despite the above-mentioned significant increase in the GFCF volume, the government expenditure

only grew by 4.7%, and the government deficit was decreased. In the year after that, on the contrary, the government revenue went up by a mere 1.5%. The investment subsidies (notably from the EU) went down (by 58.5 bil. CZK, i.e., by 72.1%) and, consequently, the volume of investments into the fixed capital was also significantly lower (with a year-to-year decrease by 81.1 bil. CZK, i.e., by 34.3%); the rate of investments of the general government thus went down from 38.5% to 24.4% (which has been the lowest level of the rate of investments of this sector since 1995). Such a large drop in the GFCF volume (despite a significant increase in the compensation of employees by 42.4 bil. CZK) meant a decrease in the government expenditure by 1.8%; in consequence, the government deficit of 0.6% in 2015 was turned to a surplus of 0.7% in 2016. The positive economic result was achieved by markedly attenuating the investments into the fixed capital; this arrangement should not be viewed as positive from the viewpoint of the economic policy. A low rate of investments in 2017 (25.0%) helped keep a positive government balance. On the contrary, the increased rate of investments in 2018 (29.2%) reduced the government surplus by nearly 40%, to 0.9% of GDP.

A certain exception from the GFCF evolution and its influence on the government deficit was the year 2012, in which the GFCF volume went down (by 6.5%) but the deficit was increased (from 2.7% to 3.9%). This increase of the government deficit was caused by the above-mentioned year-to-year growth of the capital transfers (payable) by 76.1 bil. CZK,²¹ out of which the Church Restitutions amounted to 59.5 bil. CZK. Moreover, the Czech economy suffered another recession in 2012 (GDP went down by 0.8%, and GFCF by 3.1%).²²

Summing up the Czech general government sector's situation after 2009, we can characterise the period in question as positive for the overall evolution of the revenue and expenditure because of the deficit and debt having been reduced (or the deficit even turning into surplus). Our analysis has shown that a factor strongly influencing the government balance is the volume of the investments into the fixed capital (in particular, buildings and constructions) and the latter's fluctuations are reflected in the changes of the government deficit/surplus with reciprocal proportion.

4 EXAMPLES OF OTHER EUROPEAN COUNTRIES²³

We have chosen for our comparison those EU countries whose economic recession in 2009 (measured by the GDP growth rate) and the increased government deficit (as related to the GDP) were comparable with (or even higher than) those of the Czech Republic and in which the recovery after 2009 (similar to the Czech Republic) brought the government balance to a limit given by the convergence criterion. Each of the countries we have selected in this paper took its specific way to reducing its government deficit after 2009. In all instances, we will follow the concept of the national accounts and give our data in current prices. The average inflation rate values in the evaluated countries were not significantly different from each other in the period under assessment;²⁴ hence the evolution of the chosen absolute indices can be compared.

The first country we will focus on is **France**. Reasons for this selection are given not only by the economic development after 2009, characterised by reducing the government deficit every year, but also the abundant data available at the website of the Institut National de la Statistique et des Etudes Economiques (INSEE).

²¹ When investment subsidies fall, especially from the EU.

²² Both these values are given in the comparable prices.

²³ When selecting the countries for this analysis, the authors have been rather restricted by (non)availability of detailed data concerning the general government shown at the websites of the national statistical offices. Regarding the data of the national accounts, the Czech Statistical Office's database published at its website can undoubtedly be considered the best with respect to the presence of required details and user friendliness.

²⁴ The average annual inflation rate values in the period 2007–2018 was 1.9% in the Czech Republic, 1.4% in France, 1.9% in Belgium, and 1.6% in Slovakia.

Low but stable GDP growth rates are typical for the French economy (the average annual GDP growth rate has been 1.6% in the most recent 20 years). The year of crisis 2009 was the only one in this period in which the GDP went down (by 2.9%). In 2012 and 2013, when the Czech economy again slowed down to negative values of the GDP growth rate (−0.8% and −0.5%), the French economy also stagnated (with 0.3% and 0.6% year-to-year GDP growth rate). The recovery was slow in France; a value above 2% of the year-to-year GDP growth rate was achieved as late as in 2017 (and it went back to a 1.7% the year-to-year growth value in 2018).

The French general government's proportion in the gross value added of the total economy is at about 18% on a long-term basis, as compared with 15% in the Czech Republic; this difference is implied by a wider redistribution role of the French state. In the latest decade, the government expenditure has been between 53 and 57% of GDP, and the revenue between 50 and 53% of GDP, out of which the mandatory payments (taxes and social contributions) amounted to a value between 44 and 48% of GDP.²⁵

Since the early 1990s, the economic development in France has been accompanied by growing values of the government deficit and debt. The values of the government deficit were high in the early 1990s (with the maximum at 6.4% in 1993) to values below 3% (2.4% in 1998) in the effort to fulfil the convergence criteria when entering the EMU. The deficit went in 2017 (after years of recession) below 3% of GDP (and remained below this limit in 2018 as well). As early as 1996, the government debt first touched upon the limit of 60% of GDP (while it was a mere 36.1% of GDP in 1991) and has continuously been growing since that time (except for 2000 and 2001, when its value got slightly below 60% of GDP). The government debt in France has currently exceeded 98% of GDP.

Focusing on the period after 2009, we can clearly see that the government deficit in France was gradually going down and it got the level of the pre-crisis year 2007 in 2018. The slow rate in which the deficit proportion in the GDP was going down was caused by a relatively small lead of the government revenue growth (by 30.1%) before the expenditure growth (19.1%). The growth of the volume of the collected current taxes (by 51.6%) and taxes on production and imports (by 34.2%) were both growing faster than the revenue as a whole. Within expenditure, the fastest-growing items were those of the social benefits (by 23.4%) and subsidies (by 82.3%; but the subsidies only accounted for one-seventh of the social benefits' volume).

Table 3 Selected general government indices, France (in % of GDP)

Index	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Government surplus/deficit	−2.6	−3.3	−7.2	−6.9	−5.2	−5.0	−4.1	−3.9	−3.6	−3.5	−2.8	−2.5
Government revenue	49.9	50.0	50.0	50.0	51.1	52.1	53.1	53.3	53.2	53.1	53.6	53.5
Government expenditure	52.6	53.3	57.2	56.9	56.3	57.1	57.2	57.2	56.8	56.6	56.4	56.0
Government debt ²⁶	64.5	68.8	83.0	85.3	87.8	90.6	93.4	94.9	95.6	98.0	98.4	98.4

Source: <www.insee.fr>, the authors' own calculations

As already stated above, the situation of the French general government can be viewed both positively – because of the decreasing proportion of the deficit in the GDP, and negatively – because of the ever-growing

²⁵ In the Czech Republic, the proportion of the government expenditure was between 40% and 42% in the same period, and the proportion of the revenue oscillated around 40% of GDP; the mandatory payments' proportion was more or less stable at approx. 34% of GDP.

²⁶ This is consolidated gross debt for the purposes of the EDP (Excessive Deficit Procedure); for more details, cf. Hronová, Šixta, Fischer, Hindls (2019).

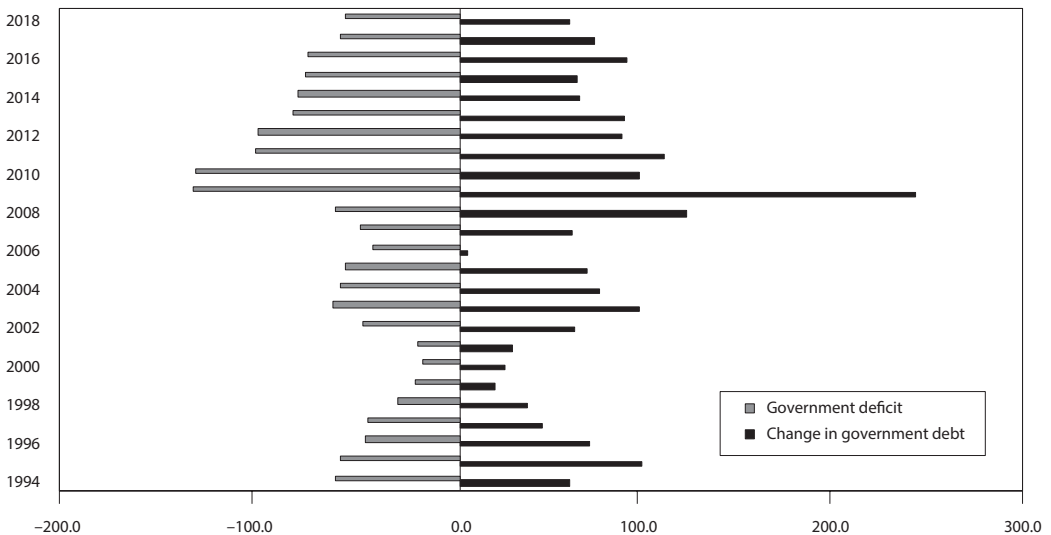
debt (with respect to the GDP). The explanation looks simple – the year-to-year deficit must be covered by the revenues from the newly issued bonds. The reality is not that simple, though. Let us recall a relationship prevailing between the debt increments and the amount of the deficit.

A change in the government debt equals the deficit/surplus only if no other changes occur implied by the government deficit and debt notification (adjustments, transactions affecting the government balance whose counter-items do not enter the government debt,²⁷ re-evaluating foreign currency liabilities, statistical differences, etc.), or in case of no changes in financial assets or liabilities that do not affect the government balance but affect the amount of the debt.²⁸

Net changes in financial assets are among important causes for the existence of a difference between the government debt changes and government deficit/surplus. As a rule, such setup occurs when a general government issues bonds in a certain year but utilises the income from selling those bonds not in the same accounting period but in future years (i.e., it creates a financial reserve that is manifested as a growing value of the financial assets). If this is the case, the deficit may get reduced and the debt unchanged; or the available means may have been used to pay up the debt and then the debt is decreased while the deficit remains unchanged.

In France, the revenue is not sufficient to cover the expenditure from the viewpoint of the balance; this fact has led the French general government to seek new resources by issuing bonds. As Figure 4 shows, the annual increases in the debt value are "consumed" by payments on the deficit, and no money is left for paying

Figure 4 Changes in government debt and government deficit, France (bil. EUR)



Source: <www.insee.fr>, the authors' own calculations

²⁷ An example in the Czech Republic is represented by the above-mentioned Church Restitutions, included in the other capital transfers on the non-financial account. The corresponding counter-item on the financial account was the change in other liabilities, not entering the amount of the general government's debt.

²⁸ All such extraordinary operations expressing a difference between a change in the debt on the one hand and the deficit/surplus on the other hand are summed up to an adjustment item denoted by SFA (stock-flow adjustment) – cf. Eurostat (2019) for more details. Detailed data can also be found there concerning individual items entering the difference between the change in government debt and the government deficit/surplus in the entire EU.

up the government debt. This phenomenon leads to new issue of government bonds and the continuing growth of the government debt.

As of the end of 2007, the French general government's indebtedness in the form of bonds amounted to 1 019.9 bil. EUR, i.e., 52.5% of GDP); as of the end of 2018, this value was nearly doubled (to 1 993.0 bil. EUR, i.e., 86.8% of GDP);²⁹ the long-term bond indebtedness has been growing the fastest. The net increment of the indebtedness (change on the debit side minus the change on the credit side) of the French general government in the form of long-term bonds amounted to 76.6 bil. EUR in 2018. Similar amounts were valid in the years 2015 through 2017. The highest increments in the net indebtedness in the form of long-term bonds could be seen in the years of the crisis and shortly afterwards, i.e., in the years 2009 through 2011 (e.g., the bond-indebtedness was increased by 141.5 bil. EUR in 2009).³⁰ Since the value of assets (both financial and non-financial) only went up by one-fifth in the period under assessment, the total net worth of the French general government went down by 83.2%, amounting to a mere 1.3% of the national-economy net worth at the end of 2017.³¹

To sum up, the French government was successful in its effort to cover the high and ever-growing expenditure of the general government and, at the same time, to keep the deficit below the critical level of 3% of GDP, but only at the cost of a growing indebtedness in the form of bonds. Since the creditors are mainly foreign financial corporations,³² the situation of the French general government, i.e., of the French public finances, is hardly sustainable on a long-term scale.

Another country that was hit by the 2009 recession is **Belgium**, with a drop in the GDP by 2.3% and a sudden surge of the government deficit (up to 5.4% of GDP, as compared with the 2007 surplus of 0.1%); its deficit is currently smaller than 1% of GDP.

The size of the Belgian economy is comparable to that of the Czech Republic; the former has been growing in the most recent 20 years at a relatively stable, but rather low rate (with the average GDP growth rate at 1.3% in the years 2000 through 2018). The Belgian economy only achieved the GDP growth rate values higher than 3% in 2000, 2004, and 2007; a year-to-year growth value of 2–3% only occurred in 2005, 2006, and 2010. The stability of the economic growth may have been one of the reasons why the 2009 crisis' impact on the GDP was relatively small in comparison with the other EU countries and the quick recovery as early as in 2010 (with the GDP growth at 2.7%, when the Eurozone average value was 2.1%).

The Belgian general government sector's proportion in the gross value added of the total economy was, on a long-term basis, at 15–16%; the government revenue has, in the most recent decade, amounted to values between 48% and 52%, and the government expenditure between 48% and 56%; the revenue grew by 36.9% and the expenditure by 24.9% from 2009 to 2018. A difference between the revenue and expenditure, i.e., the government deficit went down from a value of 5.4% of GDP in 2009 to 0.7% of GDP in 2018. From the viewpoint of the government deficit, the evolution of this value brought about gradual moderate improvements in the time period after 2009; but from the time of Belgium joining the European Monetary Union until 2007 the government deficit was undergoing significant year-to-year changes.

The most quickly growing item of the Belgian government revenue when comparing the years 2018 and 2009 was current taxes (by 47.8%), out of which the legal-entity income taxes' growth rate was equal

²⁹ We give here consolidated data to enable comparability with the data on the government debt shown in Table 3.

³⁰ The annual amount of the interest paid by the French general government has gradually been decreasing (from 57.3 bil. EUR in 2008 to 40.3 bil. EUR in 2018).

³¹ Here we take a basis of the final annual balance sheet of 2017, i.e., non-consolidated data; the data from 2018 was not available at the time of writing this paper. In comparison, the net worth of the general government in the Czech Republic at the end of 2017 amounted to 41.6% of the corresponding national-economy value; that would be by 10 p. p. lower than in 2007.

³² Foreign financial corporations are estimated to hold approx. 55–60% of the general government debt. Cf., e.g., <<https://www.lesechos.fr/2016/07/pourquoi-letat-ignore-qui-detient-sa-dette-215170>> or <<https://www.francetransactions.com/le-saviez-vous/surendettement-des-etats-qui-detient-la-dette-de-la-france.html>>.

to 139.6%. The volume of the collected taxes on production and imports grew at a rate identical with that of the total revenue. Among the expenditure items, the social benefits grew the fastest by 33.7%; out of these, the fastest were old-age pensions (by 44.9% – the pensions make up about two-fifths of the social benefits); there was a significant drop of 24.3% in the unemployment benefits (the unemployment rate went down by 2 p. p. in the same time period, but it still remains at a high level of 6%).

Table 4 Selected general government indices, Belgium (in % of GDP)

Index	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Government surplus/deficit	0.1	-1.1	-5.4	-4.0	-4.2	-4.2	-3.1	-3.1	-2.4	-4.4	-0.8	-0.7
Government revenue	48.3	49.2	48.8	49.3	50.3	51.6	52.7	52.2	51.3	50.7	51.4	51.7
Government expenditure	48.2	50.3	54.2	53.3	54.5	55.9	55.8	55.3	53.7	53.1	52.2	52.4
Government debt ³³	87.0	92.5	99.5	99.7	102.6	104.3	105.5	107.5	106.3	106.1	103.6	102.0

Source: <www.nbb.be>, the authors' own calculations

Another characteristic feature of the general government sector in Belgium is its high level of debt; it has been high since the creation of the EMU, when Belgium did not pass the government debt criterion – this debt was high above the critical 60% level (the Belgian government debt was 118.2% of GDP in 1998). All the same, Belgium became an EMU member state, but the country's effort to reduce its government debt was disrupted by the 2009 crisis. The lowest value of the Belgian government debt occurred in the pre-crisis year of 2007 (at 87.0% of GDP); the highest in 2014 (at 107.5% of GDP); now it is still higher than 100% of GDP (cf. Table 4); out of this value, 78.0% of GDP is the indebtedness in the form of long-term bonds. Belgium thus ranks with Greece, Italy, Cyprus, and Portugal among EU countries whose government debt is, on a long-term basis, higher than 100% of GDP.

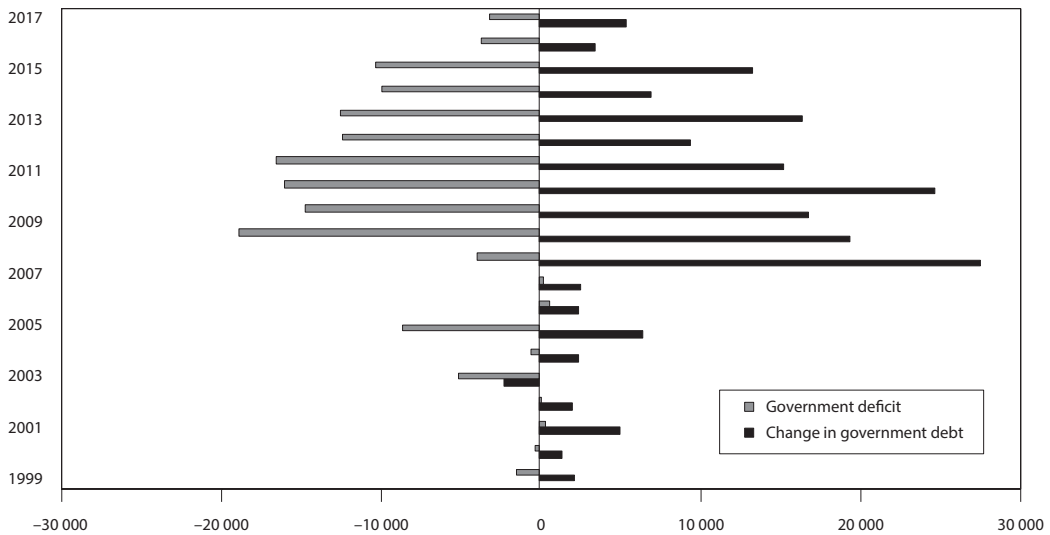
The Belgian government debt in 2018 was by 32.4% higher than the 2009 value (and by 53.2% higher than the 2007 value); out of this value, 38.6% was the indebtedness in the form of long-term bonds. The general government's proportion in the overall financial liabilities of the national economy was 11.6% in 2018 (i.e., by 1.6 p. p. more than in 2009).³⁴ When evaluating the economic development of the Belgian general government, the deficit was being reduced after 2009 by faster growth in revenue than in expenditure. The general government in Belgium, similar to France, looks for the resources to cover the expenses incurred on issue of bonds, in particular, long-term ones. Figure 5 implies that the income from the debt increase after 2009 was mainly utilised on covering the deficit and the debt itself was being reduced only gradually.

However, we should view on the low changes of the Belgian government debt before 2009 keeping in mind the amount of that debt (whether absolute or relative with respect to the GDP) – it exceeded the critical level of 60% of GDP by tens of percentage points.

The last country we have included in our comparative analysis is **Slovakia**. This choice is based not only on the data availability at the website of the Slovak Statistical Office and the National Bank of Slovakia but mainly because the drop in the Slovak economy after 2009, measured by the GDP growth rate (-5.4%),

³³ This is consolidated gross debt for the purposes of the EDP (Excessive Deficit Procedure); for more details, cf. Hronová, Sixta, Fischer, Hindls (2019).

³⁴ In 2018, this proportion was 10.3% in France and 9.2% in the Czech Republic.

Figure 5 Changes in government debt and government deficit, Belgium (mil. EUR)

Source: <www.stat.nbb.be>, the authors' own calculations

was one of the highest amount the EU countries,³⁵ and the Slovak government deficit in that year also ranked among the highest values in EU (7.8% of GDP).³⁶

The Slovak economy has been among countries with the highest year-to-year growth rate values; the average GDP growth rate in the period 2002–2018 was 3.4%, which is the highest among the countries we analyse in the present paper.³⁷ Slovakia was also able to quickly recover its economy after 2009; in 2010, its year-to-year GDP growth was 5.0% – apart from Sweden, this was the largest such value in the entire EU. The Czech economy got to negative growth rates in 2012 and 2013; in the same period the Slovak economy slowed down to 1.7% and 1.5% year-to-year GDP growth rates; and it has been achieving growth rates of more than 3% of GDP since 2014.

The Slovak general government's proportion in the gross value added of the total economy is, on a long-term basis, between 12% and 14% and the government revenue have, in the most recent decade, fluctuated within a rather wide range between 34% and 43% of GDP; the expenditure between 36% and 45% of GDP (cf. Table 5). The government revenue growth (higher by 55.0% as compared with 2009) has been faster than the expenditure growth by 25.2 p.p. – this difference is the highest among the countries we analyse in the present paper. It is logical that, under such circumstances, the government deficit was going down, getting below the critical limit of 3% as early as in 2013. The high rates of the economic growth led to a growing volume of collected current taxes (higher by 76.0%), social contributions (by 66.1%), and taxes on production and imports (by 47.8%). On the other hand, the collected property income and miscellaneous current transfers significantly went down (both by 24.0%); these items only make up less than 5% of the government revenue.

³⁵ The largest economic drop in 2009 occurred in the Baltic states (nearly 15%); it was between 6% and 8% in Croatia, Hungary, Finland and Iceland.

³⁶ The highest value of the government deficit with respect to the GDP in 2009 occurred in Greece, Ireland, Spain and the United Kingdom (above 10%); its value was around 9.5% in Lithuania, Latvia, Portugal and Romania. Slovakia, France and Poland had that value between 7% and 8%.

³⁷ The average GDP growth rate in the period 2000–2018 was 2.5% in the Czech Republic, 1.6% in France, and 1.3% in Belgium.

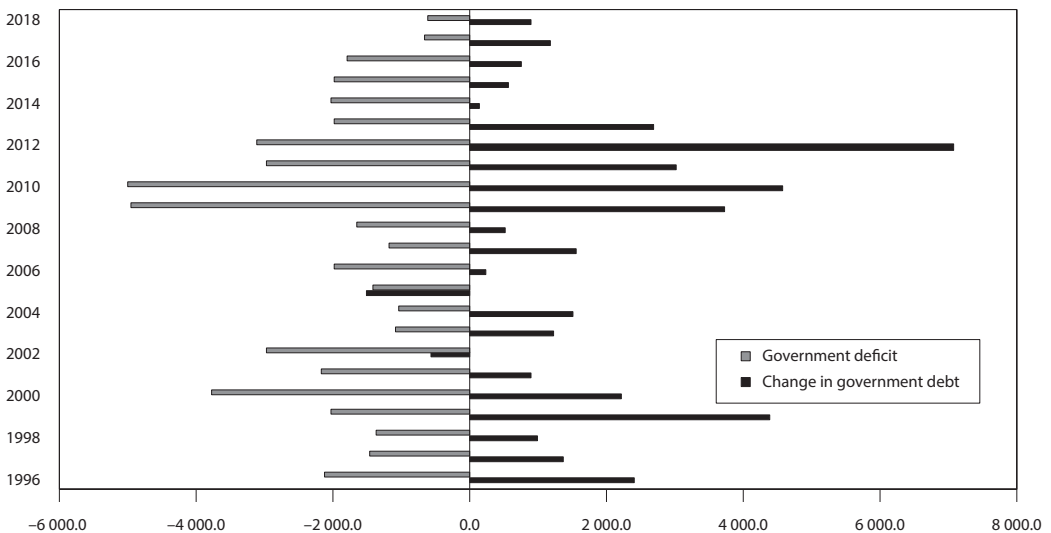
Table 5 Selected general government indices, Slovakia (in % of GDP)

Index	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Government surplus/deficit	-1.9	-2.4	-7.8	-7.5	-4.3	-4.3	-2.7	-2.7	-2.6	-2.2	-0.8	-0.7
Government revenue	34.4	34.5	36.3	34.7	36.5	36.3	38.7	39.3	42.5	39.2	39.4	39.9
Government expenditure	36.3	36.9	44.1	42.1	40.8	40.6	41.4	42.0	45.1	41.5	40.2	40.6
Government debt ³⁸	30.1	28.5	36.3	41.2	43.7	52.2	54.7	53.5	52.2	51.8	50.9	48.9

Source: <www.nbs.sk>, the authors' own calculations

Regarding the Slovak government expenditure, which has grown by 29.8% as compared with 2009, the highest growth occurred in the compensation of employees (by 53.2%) and social benefits (by 31.0%); the investments into the fixed capital went up as quickly as the total expenditure, and – unlike in the Czech Republic – the year-to-year fluctuations in their volume were not in reciprocal proportion to the changes in the government deficit.

Having in mind the large difference between the Slovak government revenue growth and expenditure growth and the decreasing deficit, it is surprising that the debt was growing as far as 2013 and that its high values still prevail (cf. Table 5).

Figure 6 Changes in government debt and government deficit, Slovakia (mil. EUR)

Source: <www.nbs.sk>, the authors' own calculations

³⁸ This is consolidated gross debt for the purposes of the EDP (Excessive Deficit Procedure); for more details, cf. Hronová, Sixta, Fischer, Hindls (2019).

³⁹ Activation of the so-called debt brake pursuant to the constitutional act on budget responsibility means taking a number of steps aimed at the stabilisation of the public finances. If a pre-set limit is exceeded by the debt, the government will have to announce austerity measures and put forth a proposal of how the situation should be resolved at the levels of both the central and the local government authorities.

The Slovak general government tried to resolve a sudden increase in its deficit in 2009 (to 7.8% of GDP); it was aiming at decreasing the deficit in the subsequent years by issuing long-term bonds. This approach was, of course, reflected in the government debt growing every year; the most significant year-to-year change occurred in 2012 (by 22.9%, or by 8.5 p.p. as related to the GDP). The government debt exceeded a level of 50% of GDP, and Slovakia put on the debt brake.³⁹ The debt increment in 2012 was larger than the amount of the deficit and made it possible for the obtained financial means to be used for covering the expenditure in the subsequent years and to pay up the debt. This way, the deficit was gradually reduced (absolutely and with respect to the GDP); and the debt's proportion in the GDP was also reduced. Figure 6 best illustrates the relationship between the changes in the government debt and the government deficit in Slovakia.

Even though the evolution of the Slovak government debt and deficit after 2009 may be viewed as positive, the debt amount still remains high and only in 2018 got below the sustainability limit.⁴⁰

CONCLUSIONS

The formal fiscal rules setting out the critical levels for the government deficit and debt to a certain extent regulate the general government's behaviour in the respective country; nonetheless, infringements on such rules (especially the long-term exceeding of the government debt value in certain Eurozone countries) are more or less tolerated (e.g., in Belgium and France), unless such infringements are accompanied by additional significantly negative phenomena (such as in Greece).

In 2009, a drop in economic activities occurred in all European countries (except for Poland) – the GDP went down on the EU-average by 4.3%. The general government in each country was hit by the drop in GDP, increased unemployment and other symptoms of the economic crisis. The subsequent drop in revenue from taxes and social contributions, as well as the increased expenditure incurred on social benefits, were manifested in a significant increase of the government deficits (6.6% of GDP on the EU-28-average). A solution was mainly seen in stimulating the economic activities – it may have been supported by the general governments' interventions (which increased their expenditure). An alternative was to cut down the expenditure; this approach was applied in a number of countries and attenuated their economic activities and brought back the crisis in 2012 and 2013 (this development occurred not only in the Czech Republic but also, e.g., in Hungary, Italy, the Netherlands, Spain, and other countries).

Despite that and the "wavering" in 2012 and 2013, all EU countries (except for Spain) achieved values of their government deficit below the critical 3% limit as early as in 2016; and there is another exception of Cyprus in 2018. Each country chose its own specific way to get rid of the crisis and to reduce the too-high deficit prevailing in 2009. The goal of the present paper is to point out the general government's economic behaviour in the Czech Republic and compare it with those of several selected countries – France, Belgium, and Slovakia. When selecting those countries, we looked for meeting a criterion of a high government deficit in 2009 and its reduction below the critical 3% limit by 2018. Unfortunately, we were restricted in our choice by the fact that, in many countries, detailed data of the national accounts are not available at the websites of the respective national statistical offices.

The Czech general government was undergoing a difficult stage of its development after 2009. The high deficit of 2009 (at 5.5%, and with the GDP decreased by 4.8%) had to be covered by a growing indebtedness. Consequently, the government debt underwent significant changes from 2009 to 2012; the gain generated by the issued bonds did not cover the deficit in the first two years. The effort aimed at reducing both the deficit and the debt led to a growth in the expenditure slower than that in the revenue,

⁴⁰ It is a pre-set fiscal limit – the maximum level of the debt considered sustainable from the viewpoint of the general government. The Slovak general government's goal is to reduce the debt below a limit of 40% of GDP, and subsequently to put on the debt brake when the debt exceeds 40% of GDP. Cf. the Constitutional Act on Budget Responsibility, Article 13 (Act No. 493/2011 Coll.).

and finally the government deficit was turned into a surplus in 2016 (as well as in 2017 and 2018). Our analysis has, however, shown that the changes in the Czech government deficit respond very sensitively (in addition to the extraordinary circumstances such as the Church Restitutions) to changes in the volume of the gross fixed capital formation. The latter's large decrease by 34.3% in 2016 significantly contributed to the government surplus at 0.7% of GDP; an increase in investments into the fixed capital by 27.7% in 2018 led to a decrease in the surplus by 0.7 p.p. It is not sustainable, on a long-term basis, to reduce the government deficit and, at the same time, to suppress investments into the fixed capital (if the latter were a rule); nevertheless, the structure of assets and liabilities, as well as the scope of the revenue and the expenditure, and their time evolution set up (at least currently) a prerequisite for a favourable development of the Czech general government's economic result.

There are certain common features characterising the evolution after 2009 in France, Belgium and Slovakia. They include a high value of the government debt (more than 100% of GDP in Belgium, nearly that much in France, and at the fiscal limit of 50% of GDP in Slovakia). All the countries we study in the present paper have been trying to reduce the government deficit by issuing bonds, but with different results in each of these countries.

The French general government has been struggling with high values of debt and deficit on a long-term basis; in 2017, the deficit got below a level of 3% of GDP, but only at the cost of increasing the debt to nearly 100% of GDP. The high liabilities of the general government led to a continuing decrease in its net worth as far as 1.3% of the national-economy value.

The Belgian general government had low deficit/surplus values until 2008, with small changes in a very high debt (of more than 100% of GDP); after 2009, it tried to alleviate the impact of the crisis by stimulating a faster growth in the revenue than in the expenditure, and, in particular from 2009 to 2012, by issuing bonds. The changes in government debt were higher than the deficit value, which was going down, the reduction of the debt went rather slowly; its value in 2018 remained higher than 100% of GDP, and the deficit was at 0.7% of GDP.

The Slovak general government took a way of substantially advancing its revenue growth over its expenditure (by 25.2 p. p.). Despite the increasing volume of collected direct and indirect taxes and social contributions based on the positive growth in the economy as a whole, the Slovak general government had to address the problem of high deficit values by emitting bonds from 2009 to 2012. This approach suddenly increased the government debt above 50% of GDP in 2012, and the debt remained higher than this fiscal limit until 2017.

If we sum up the evolution of the Czech general government's economic results and compare it with the circumstances in France, Belgium, and Slovakia, the Czech evolution seems to be sustainable (except for the large year-to-year changes in the gross fixed capital formation) because the government deficit reduction has been accompanied by a decrease in the government debt that is more substantial than in the other countries we study in the present paper. In this article we analyzed the long-term sustainability of public finances only based of national accounts data, ie only based of historical data. Another important issue concerning the long-term sustainability of public finances, which we have not examined here, is the aging population. However, this is a very complex problem requiring separate analyzes and other data than could be obtained only from national accounts.

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References

- ASPDEN, C. The Revision of the System of National Accounts. What does it change? *Statistics Brief*, No. 13, Paris: OECD, 2007.
- ARVAY, J. The Material Product System (MPS): A Retrospective. *Twenty-second General Conference of the International Association for Research of Income and Wealth (IARIW)*, Switzerland, 1992.
- CARSON, C., KHAWAJA, S., MORRISON, T. K.: *Revisions Policy for Official Statistics: A Matter of Governance*. Washington: IMF, 2004.
- Comptes de la Nation en 2018*. Insee Première, No. 1754, INSEE, 2019.
- Comptes des administrations publiques en 2018*. Insee Première, No. 1753, INSEE, 2019.
- CONNOLLY, M. The Challenges Facing Globalization. *Actes du 16^{ème} colloque de Comptabilité Nationale*, Paris, 2017.
- European System of Accounts – ESA 2010 (Système Européen des Comptes – SEC 2010)*. Luxembourg: Eurostat, 2013.
- HARVEY, R. Comparaison des taux d'épargne des ménages. Zone EUR/Etas-Unis/Japon. *Cahiers statistiques*, No. 8, OECD, 2005.
- HRONOVÁ, S. AND HINDLS, R. Czech Households in the Years of Crises [online]. *Statistika: Statistics and Economy Journal*, 2013, Vol. 93, No. 4, pp. 4–23.
- HRONOVÁ, S., HINDLS, R., MAREK, L. Reflection of the Economic Crisis in the Consumer and Entrepreneurs Subsectors [online]. *Statistika: Statistics and Economy Journal*, 2016, Vol. 96, No. 3, pp. 4–21.
- HRONOVÁ, S., SIXTA, J., FISCHER, J., HINDLS, R. *Národní účetnictví – od výroby k bohatství* [National Accounts – From Production to Wealth]. Prague: C. H. Beck, 2019.
- Insee Première*. No. 1753, INSEE, 2019.
- LEQUILLER, F. AND BLADES, D. *Comptabilité nationale*. Paris: Economica, 2004.
- LEQUILLER, F. Quelques propositions d'amélioration technique sur le compte des administrations publiques dans le SCN. *Actes du 16^{ème} colloque de Comptabilité Nationale*, Paris, 2017.
- Manual on Government Deficit and Debt. Implementation of ESA2010*. 2014 Ed. Eurostat, 2014.
- MAREK, L., HRONOVÁ, S., HINDLS, R. Structure of Final Consumption in Light of GDP Dynamics [online]. *Statistika: Statistics and Economy Journal*, 2017, Vol. 97, No. 3, pp. 5–15.
- Monitoring economic performance, quality of life and sustainability*. German Council of Economic Experts, Wiesbaden and Conseil d'Analyse économique, Paris, 2010.
- SINGER, M. A Comparison of the Rates of Growth of Post-Transformation Economies: What Can (Not) Be Expected From GDP? *Prague Economic Papers*, 2013, Vol. 12, No. 1, pp. 3–27.
- SKALÁK, Z. AND RYBÁČEK, V. Pension Liabilities in the Czech Republic [online]. *Statistika: Statistics and Economy Journal*, 2018, Vol. 98, No. 3, pp. 209–222.
- VEBROVÁ, L. AND RYBÁČEK, V. Public Finance, the Public Sector and the General Government Sector [online]. *Statistika: Statistics and Economy Journal*, 2018, Vol. 98, No. 4, pp. 362–368.
- Stock flow adjustment for the Member States, the EUR area (EA-19) and the EU-28, for the period 2015–2018 as reported in the April 2019 EDP notification*. Eurostat, 2019.