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The deficit mechanism of the Hungarian municipalities^{*}

Tamás Vasvári

The management of the Hungarian municipal sector has received special attention since the crisis in 2008 and interest in the sector increased further due to the changes in legislation in 2011. A great number of economy experts and speakers on behalf of the government or the municipalities provided further details on prevailing issues in the municipal sector; however, their assessment of the severity of these issues varied greatly. By describing the logical framework of the deficit mechanism this study aims to evaluate the processes behind the situation of today in order to forecast the situation of tomorrow as regards the management of municipalities. According to the mechanism, if the deficit of a municipal budget (the operating, investment, financing budget or reserves) can only be eliminated by the upward adjustment of financing revenues, it will lead, in the end to increasing municipal indebtedness. Increasing indebtedness, as a rule, results in increasing debt service. Although these expenditures are part of the financing budget, in practice they are usually financed from other budgets. Therefore, increasing debt service can be a potential cause of reorganization in operation, the postponement of investments, an increasing asset disposal activity, refinancing with new borrowings or a drop in reserves. In addition to these, the phenomenon called the crowding out effect of debt service may at the same time improve the GFS balance of municipalities.

Keywords: municipality, indebtedness, debt service, deficit-mechanism, crowd-out effect

Introduction

The management of Hungarian municipalities was in the spotlight in 2011 both at the macro and the micro levels. Interest in the issue has started to increase at the end of 2010 when a debt settlement process ended in Szigetvár and shortly after another commenced in Esztergom. These cases were unprecedented in the 15-year history of municipal debt settlement which had been considered so far a “small-town” or village phenomenon. In early 2011 the Central Bank of Hungary notified the government and the public first and later the Ministry for National Economy also confirmed that the ESA deficit target for 2010 was not met principally because the deficit of the municipal sector was higher than expected. In May 2011 the Ministry of Internal Affairs made public its programme for the reform of the municipal sector which provoked intense and dissatisfied responses from both municipal executives and experts of the sector. Since then, the government has outlined several concepts although these are not in any way reflected in the new cardinal Act on Local Governments of Hungary passed by the Parliament on 19th December 2011. The Parliament, however, had already begun the construction of the new municipal system a few months earlier by introducing the Act on the Consolidation of County Governments. Meanwhile, the feedback of the international finance press on the new legislative environment escalated the issues of the municipal sector to the sovereign level. A number of expert reports were also published which differed in their estimation of the scope and depth of the financial crisis of municipalities. This paper does not aim to be the next in the line of these studies. Our purpose is rather to present the phases and feedback effects of the municipal deficit mechanism objectively, on the basis of a simple model. By evaluating this model, we will examine the financial management of municipalities from a novel aspect. Finally, we will assess the new legislative environment in the light of the municipal deficit mechanism.

^{*} The closing date of the study is: 16/01/2012

1. The features of the Hungarian municipality system

The budget of the municipalities is part of public finances (Article 111(1) of the new Act on Local Governments of Hungary). Local operation, management and functions were specified until 2011 by the Act on Local Governments, the Act on Public Finances, the Act on Municipal Debt Adjustment, the Act on Credit Institutions and Financial Enterprises¹ and numerous other regulations.²

The balance sheet and budget of the municipalities are consolidated into the final account of general government at the end of each year. The municipalities provide public services which are financed – in addition to government grants – from local tax and fee revenue. The effectiveness of this financing structure is examined in detail by Vigvári (2002 and 2011). Let us note here only that the proportion of municipal own income and central transfers (block grants and transfers from the general government) defines decisively the income flexibility (Vigvári, 2010) and the financial standing of the municipalities. The revenues and expenditures of the general government may be accounted on accrual or cash basis.³ This study shall refer to the cash basis concept of accounting by default as Hungarian public accounts are prepared – prior to any adjustments made on accrual basis – with this method. This means that deals are accounted when the related cash transfer is made and only items involving cash movements are accounted (P. Kiss, 2011), regardless of which budget period the economic event actually belongs to. The revenue and expenditure structure of municipalities may further be reported in functional or in economic classification. The functional classification groups cash transfers according to the public service provided (e.g. public education), while the economic classification reflects the nature and type of revenues (e.g. own income, such as taxes and fees and central transfers) and expenditures (e.g. material and payroll expenditures and related contributions). For this study, we will consider the economic structure by default. In our analysis we will separate the operating, the investment and the financial budget which reflects external financing activity. In many countries, general government institutions have to manage these budgets separately throughout the budget period (Vigvári, 2011) which prevents them from financing their operating deficit from asset disposal and long-term borrowings⁴ (Vigvári, 2007).

The structure of municipal revenues and expenditures, their development and relation may be described by different ratios and balances. A wide range of methods are examined in Vigvári (2002), Galbács (2009) and Simon (2011). We share here only the ratios which are relevant to this study:

- **Total balance:** All revenues and expenditures incurred in a given budget year. The balance indicates the decrease or increase of reserves.
- **Operating balance:** The result of operating revenues and expenditures. In this study we consider own income, block grants and transfers within and outside public as operating revenue, while, according to the economic classification, operating expenditures include material, payroll (with related contributions) and other operating expenditures which are related to compulsory and voluntary public services.⁵ It also includes received and paid interests.

¹ See the References section for the full Hungarian title of acts.

² E.g. Government Decree No. 249/2000 (XII. 24.)

³ For further details on these accounting techniques and principles see Simon (2011).

⁴ In many countries running an operating deficit in municipal management is forbidden and is punished by law (Vigvári, 2011).

⁵ We emphasize that – despite some municipal practices when it is represented as (operating) revenue – the cash residue from prior years is not included in the operating budget because of its distorting effect. Cash reserves are linked to the budget through the total balance.

- **Investment (capital) balance:** The result of capital revenues (revenue from asset disposal, investment grants and other capital revenues) and expenditures (investments). The balance most often shows deficit as the investment expenses of a long-term project are represented with regard to a short period.
- **GFS balance**⁶: The GFS system is based on the registry of budget estimates and their fulfilment. It represents the actual expenditure of the state (municipality) on public goods and the nature of funds financing these activities (Simon, 2011). According to the methodology, capital movements will be removed both from revenues and expenditures, so the balance will not include either capital movements related to the municipality's borrowing activity and nor the cash residue spared or spent, although the income from asset disposal may be represented as GFS revenue. The balance reflects the net financial position of the municipality (or the entire sector), that is, whether it is net borrower/reserve user or net debt payer/cash depositor. The European Union (e.g. the convergence criteria or the excessive deficit procedure) and the International Monetary Fund (IMF) (e.g. precautionary credit line agreements) apply the GFS methodology revised in 2001 to measure compliance with the requirements set for the deficit of sovereign (and municipal) debt (Vigvári, 2002). The GFSM2001 uses the accrual method⁷ while the reporting system laid down by the Act on the State Budget is based on the GFS86, developed by the IMF in 1986. Therefore, the Hungarian Central Statistical Office reports the GFSM2001 balance, which is accrual-based, by adjusting the official accounts prepared on cash basis.⁸
- **Financing balance:** The balance shows the net movement of the financing activity. Borrowings are represented as income, while debt service (only capital) is considered as expense.⁹ A surplus means increasing indebtedness, while a deficit means net debt service activity (decreasing debts). The GFS methodology does not take into account these items in its calculations. The balance is generally in surplus as borrowings are accounted in one sum while the related debt service extends to further periods.

2. The deficit mechanism in municipal financial management

We separate three plus one budget in the financial management of municipalities which make up a closed financing system.¹⁰ These are the following: the (1) operating, (2) investment (capital), (3) financing budgets and (+1) reserves. By a closed financing system we mean that the non-zero balance or change of a budget will result in the non-zero balance or change of at least another budget. In our analysis we assume a typical situation, namely, that there is a deficit in one of the budgets (Figure 1). The deficit might be generated by the operating or the investment (together the GFS) budget, by the financing budget (net debt service), or by a latent lack of reserves.¹¹ If the deficit cannot be financed either from the surplus of the operating or the investment budget, or from reserves,¹² a need arises for

⁶ Government Financial Statistics. See details about the development of and modifications to the methodology of the GFS statistics in Györfly et al. (2009).

⁷ "This methodology agrees in concept with the ESA and with the developed European GFS." (Györfly et al. 2009, pp. 524.)

⁸ For further details see KSH (2011).

⁹ Transfers related to financial investments (the purchasing and selling of state bonds) are also represented here.

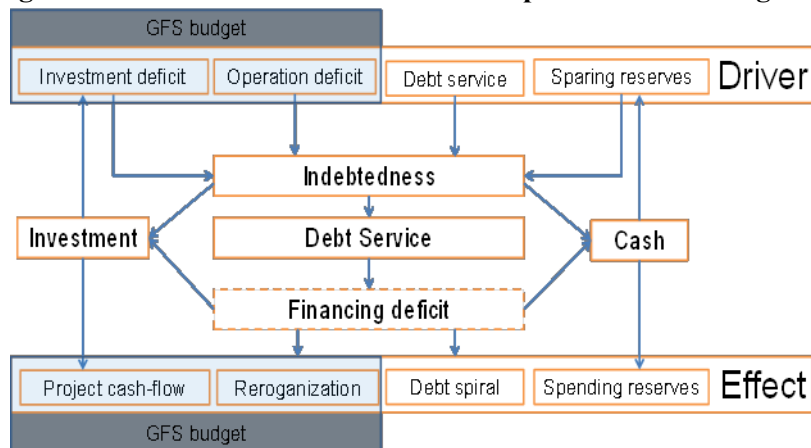
¹⁰ In spite of a wide international experience and literature, in Hungary the cash flow of the budgets is not separated in practice, only in municipal reports.

¹¹ As we will conclude later in this study, resolving the lack of reserves by borrowing was a typical motive behind the municipal bond issuances of 2007 and 2008.

¹² In this case net debt service (financing deficit) will turn into net borrowing (financing surplus).

a surplus in the financial budget (net borrowing) which results in increasing indebtedness. Increasing indebtedness, in turn, results in increasing debt service. Debt service may be financed primarily from the cash flows of the financed project (Musgrave, 1959; Kovács, 2007; Vasvári, 2009), nevertheless this principle is rarely put into practice in Hungary. Therefore, the debt service of Hungarian municipalities can be financed from decreasing reserves (total deficit), from financing income which translates into increasing indebtedness (debt spiral), or by the adjustment of the operating or the investment (together the GFS) budget. The latter can mean either the increase of operating or capital revenues¹³ or the reduction of expenditures (crowding out effect¹⁴). If the deficit is financed from a GFS surplus (net debt service) the GFS balance improves.

Figure 1: The deficit mechanism in municipal financial management



Source: Author's elaboration

As the financing system is closed, it is always in balance. Therefore, if the possibility of adjusting revenues and expenditures is exhausted (e.g. there are no further borrowing or cost-cutting possibilities) an immediate adjustment takes place in expenditures by not paying the liabilities when due. This leads to latent bankruptcy (Vigvári, 2010) or an explicit debt settlement process: both resulting in direct or indirect reorganization.

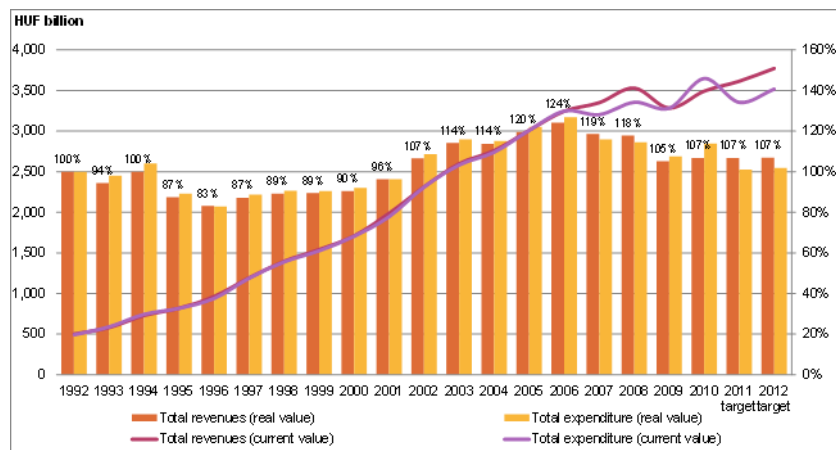
3. The financial management of the Hungarian municipalities with respect to the deficit mechanism

Prior to analysing the different budgets of municipalities we have to place the entire municipal financial system into the framework of Hungarian public finances.

The central government and the municipalities constitute the main subsystems of public finances. The total budget of the municipality sector was HUF 3,648 billion in 2010 which represents 26% of the total state expenditure of HUF 14,058 billion.

¹³ Consider only revenue items which the municipality can actually influence by way of law (e.g. tax income and proceeds from disposals). This capacity is described by income flexibility (Vigvári, 2010).

¹⁴ We do not use the term crowding out effect in this study in its traditional definition related to the market presence of the state. By the primary crowding out effect we mean reorganization in the municipal budgets which is the result of the increased debt service.

Figure 2: Revenues and expenditures in the municipal sector at current and real value 1992-2012¹⁵

Source: Author's calculations and elaboration based on the data of the Hungarian State Treasury and the Central Bank of Hungary

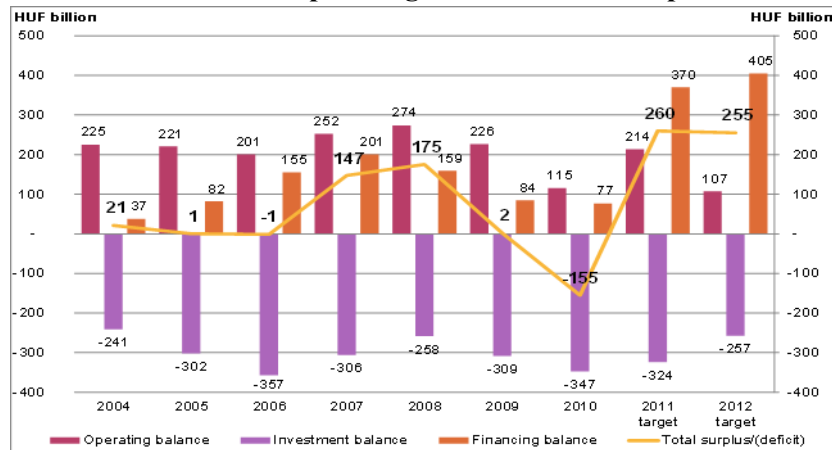
As it is presented by Figure 2 – the income shock caused by the bond issuances in 2007 and 2008 not considered – real expenditure had been increasing more intensively than revenues. A structural turnaround was observable in trends since 2006: a drop in real revenues was brought about – in addition to peaking inflation in 2007 and 2008 – by the slowing increase of block grants and other central transfers, and expenditures were adjusted accordingly. In the following years, municipalities anticipated decreasing central transfers, therefore, they started to increase their reserves (mostly through borrowing) which resulted in a huge total surplus in 2007 and 2008. On the other hand, a total deficit of HUF 155 billion had to be financed from these reserves in 2010 which was necessitated by the expiry of the grace period of municipal bonds (issued mostly in 2007 and 2008) and by tighter lending conditions on the municipal credit market, while the impact of seasonal expenditure characteristic to political cycles was also significant.

The total deficit/surplus may be divided into the balance of the operating, investment (capital) and financing budget (Figure 3). When applying this methodology we rely on the economic classification we introduced in *Chapter 1*, starting on page 2.¹⁶ We used the data of the Hungarian State Treasury until 2010, and the budget bills for 2011 and 2012. Where it is applicable, we present the trends of the previous 20 years in municipal management, however, in some cases we have to focus on a narrower period in order to present the results in detail. In these cases we focus on the period between 2004 and 2012 as the increasing indebtedness of the sector started in 2004, when the previously steady and balanced increase of cash deposits and liabilities split.

We can state in general that surplus is typical in the operating and financing balance, while it is the massive deficit in the investment balance which is responsible for the total balance going into the red (as in 2010).

¹⁵ In this study we defined real values on the basis of inflation, however, Galbács et al. (2010) introduced the concept of the “municipal deflator” (price index) which provides for a better estimation of the development of real expenditure in the municipal sector.

¹⁶ Note that the economic classification proposed by the Hungarian State Treasury (Form 80) corresponds to the classification we use in this study.

Figure 3: The balance of municipal budgets and the total surplus/deficit 2004-2012

Source: Author's calculations and elaboration based on Budget Bill No. T/1498 and T/4365 and the data of the Hungarian State Treasury

3.1. The balance of the operating budget

Municipalities finance compulsory and voluntary public services from their own income, block grants and transfers coming from within and from outside public finances. Compulsory public services are defined by the Act on Local Governments¹⁷ and by numerous sectoral acts. The balance of the operating budget shows a surplus since the political transition in Hungary in 1990.

However, two additional items, which are excluded from the operating budget in Form 80 of the Hungarian State Treasury, need to be considered in the operating budget as expenditure. Vigvári (2002) proposes an alternative regulation to control indebtedness according to which municipalities may borrow new loans only if their *financial capacity* provides an adequate safeguard that the annual debt service of these loans will be paid. To calculate this, current debt service is subtracted from the operating balance which provides an estimate of the puffer that can be utilized to finance further obligations (such as debt service) without the need for any major reorganization. Debt service is defined as financial expenditure by the Hungarian State Treasury, however, it is rarely refinanced from financial revenue in municipal management.

The concept of *financial capacity* need to be extended with expenditure on the renovation of real estates and other assets, which represents a need for asset replacement as a consequence of depreciation. In cash basis accounting depreciation does not appear as a financing need (as it is not considered as regular expenditure¹⁸). This fact is a source of increasing tension since the rebirth of the municipal subsystem in 1990 when the municipalities acquired significant assets free of charge but the related asset replacement and maintenance functions were transferred, too, to the municipalities' scope of authority, without any direct central transfer provided to them. Therefore, funds have to be raised for these expenses by each municipality individually.¹⁹ Asset replacement is defined as investment

¹⁷ The Act on Local Governments of Hungary is effective from 2012.

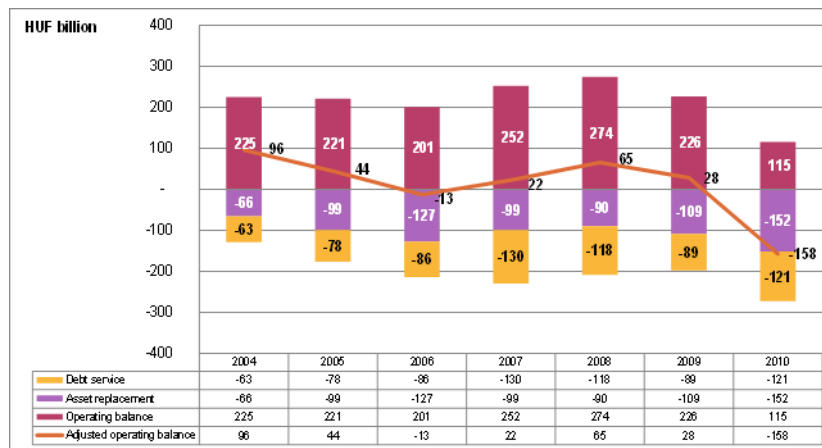
¹⁸ It is accounted only in the balance sheet (against equity) and is not represented in the income statement (budget balance). Net (exclusive of VAT) asset replacement expenditures were far below the accounted depreciation between 2004 and 2010. The accumulated difference is HUF 631.8 billion, 62.1% of which results from the depreciation of properties.

¹⁹ We should note that the financing of asset replacement and renovation is also a typical driver of borrowing.

expenditure by the Hungarian State Treasury, however, in most cases it is not financed from capital revenue – except for investment grants provided by the EU for this particular purpose.²⁰

The operating balance adjusted by annual debt service and asset replacement informs the distressed financial situation of municipalities much better: the adjusted balance shows a deficit of HUF 158 billion in 2010 (Figure 4). Further effects and feedback on the financing of debt service from the operating budget will be provided later in this study. Here, let us note only that the lack of funds in the financing of municipalities’ daily operation is a reality; its impact in 2010 was more significant than ever. The development of the adjusted operating balance is in line with the total deficit which indicates a dramatic decrease in reserves in 2010 (HUF 155 billion).

Figure 4: The operating balance adjusted by annual debt service and asset replacement 2004-2010



Source: Author’s calculations and elaboration based on the data of the Hungarian State Treasury

3.2. The balance of the investment (capital) budget

The registry of investment (capital) revenues and expenditures accounted on cash basis involves certain distortions in the reporting of Hungarian municipalities. These are the following:

- Depreciation is accounted only in the balance sheet, as a direct equity-decreasing item (see above).
- Capital expenditures are accounted in one sum, concentrated to one or a few periods (pay-as-you-go) while the utilization and the useful lifetime of the project exceeds the investment period (Vigvári, 2002).
- Financial expenditures (debt service) ensure that investment expenditures will be shared between the years/generations equally. Figure 3 illustrates clearly that the investment budget shows a deficit throughout the examined period. The deficit is financed from the operating surplus, financial incomes and reserves. The annual debt service of loans, borrowed to finance investments, distributes the capital expenditures of a period between the useful years and the benefiting generations evenly (pay-as-you-use).

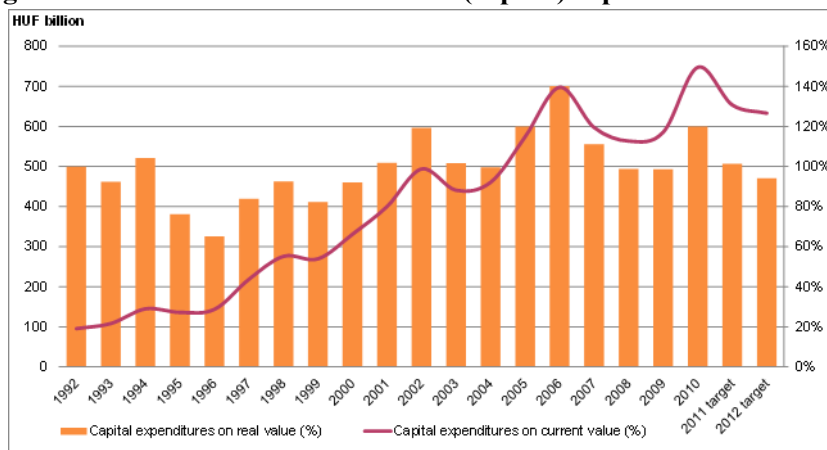
Musgrave’s (1959) *golden rule* is based upon the above principles, namely, that long-term borrowings should finance only capital expenditures. The *golden rule* and the distribution of capital expenditures over the useful lifetime has two consequences: on the one hand, the lack of timely matching may result that current operating expenditures burden future years/generations or that the financing of projects

²⁰ Musgrave (1959) also represents amortization as current expenditure.

with a long useful lifetime may unfairly burden the current year/generation. On the other hand, the financed project may generate net income for the municipality during its lifetime and this may ease the burden the annual debt service imposes on the municipality. Therefore, it is advisable to distribute investment costs throughout the useful lifetime of the project (Figure 1).

The investment intensity of Hungarian municipalities – contrary to public opinion – was balanced and steady in the previous 20 years. Compared to 1992, capital expenditure at current value grew to 782%, and increased only to 120% at real value in 2010. Moreover, these expenditures were only at the 1992 level in 2008 and 2009. Shocks caused by the political cycles in current and real investments are clearly traceable on Figure 5.

Figure 5: Current and real investment (capital) expenditures 1992-2012



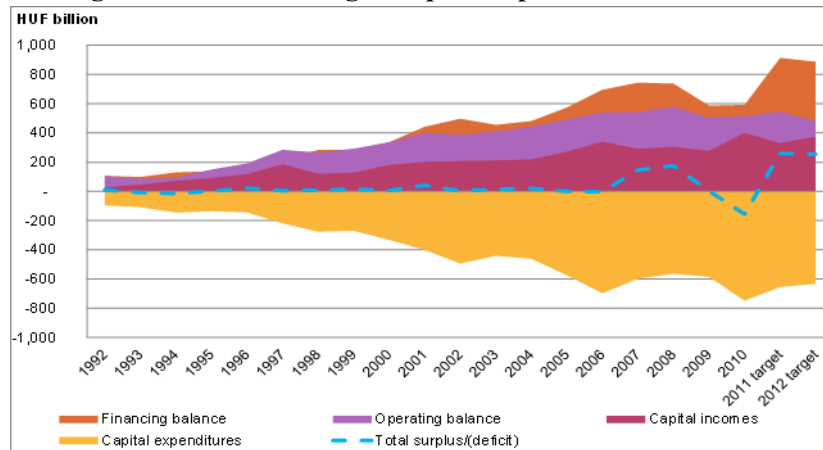
Source: Author’s calculations and elaboration based on the data of the Hungarian State Treasury and the Central Bank of Hungary

Figure 6 shows how the financing structure of investments changed in the last 20 years. The proportion of capital revenues was steady except for a period of dynamic increase between 1991 and 1997 when it was between 40% and 50%. Capital revenues reached a local peak in 2010 (67.6%) while the proportion of the financial and operating surplus dropped. In the early 2000s capital revenues were comprised mostly of proceeds from asset disposal (their proportion was 40.3% in 2001 and dropped to 16.2% in 2010). These proceeds are unrestricted use resources, unlike EU and state capital funds.²¹

We can conclude that municipalities need considerable financial resources to fund their investments: approx. 50% of capital expenditures need external – off-budget – finance. The net income generating ability of financed projects is uncertain, usually the maintenance and daily operation of projects demand additional funds from the municipality rather than generating profit to cover future debt service obligations.

²¹ See Vigvári (2007) for further details on the asset disposal activity of municipalities.

Figure 6: The financing of capital expenditures 1992-2012

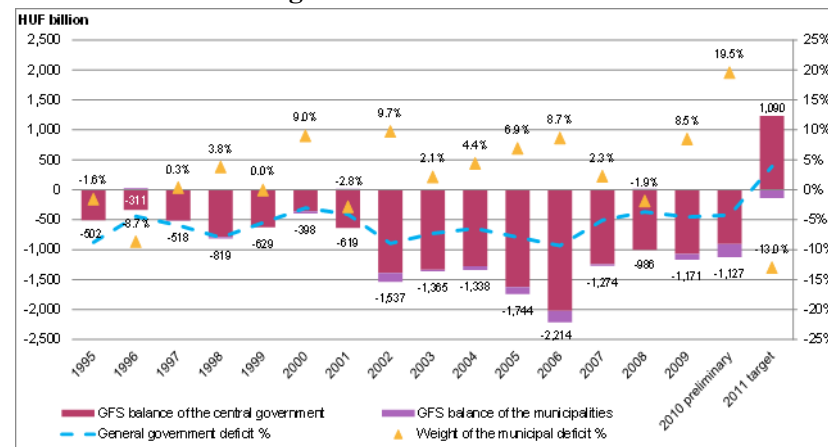


Source: Author's calculations and elaboration based on Budget Bill No. T/1498 and T/4365 and the data of the Hungarian State Treasury

3.3. The balance of the GFS budget

The balance of the GFS budget is one of the most significant indicators in the financial management of the general government. This balance does not take into account borrowings and other financial transactions on the capital market, however, proceeds from the disposal of assets as one-off, free to use items are included in the balance. The GFS balance is the result of operating and investment revenues and expenditures.

Figure 7: The composition and development of the “European” GFS balance of the general government 1995-2011



Source: Author's calculations and elaboration based on the data of the Hungarian Central Statistical Office

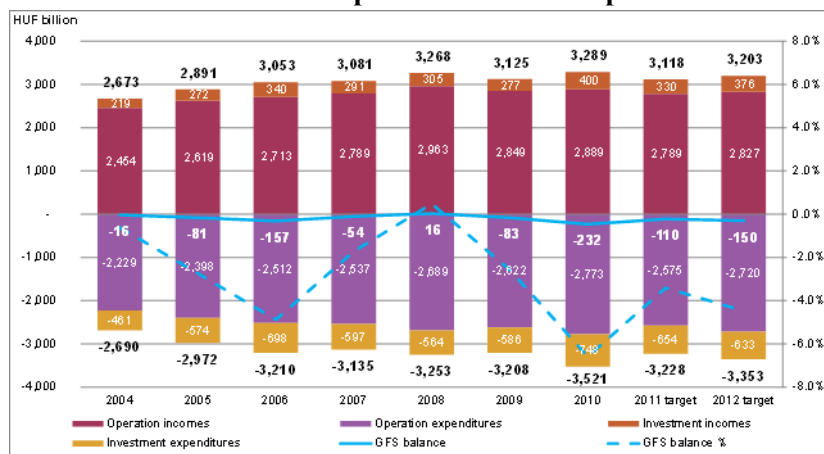
The GFS balance of the municipalities, which is prepared on cash basis, is consolidated into the general government balance. This balance (which mostly shows deficit) is the anchor of the central government's fiscal policy. The requirements of the Maastricht Treaty concern the general government balance adjusted to accrual basis (the "European" GFS), and the government, too, assumed an obligation towards the European Union and investors to fulfil these requirements on accrual basis.

The proportion of municipal deficit in the consolidated general government deficit has been steadily growing since 2008 and it peaked at 20% in 2010 (Figure 7). In the same year, the government's municipal deficit target was HUF 180.7 billion but was exceeded, with HUF 220.2 billion according to

final figures. This excessive deficit, added to the “unexpected” spending of the central government (in total HUF 74.7 billion) moved the budget deficit significantly away from the original target (4.2% instead of 3.8%).

The unexpected growth of the “European” GFS balance is reflected also in the GFS balance prepared on cash basis (Figure 8). 27.5% of the HUF 232 billion municipal GFS deficit could be attributed to the budgets of cities with county rights (HUF 63.8 billion), as Budapest and the capital districts were responsible for “only” 22.3%²² of the deficit. The proportion of the external and internal sources used to finance this deficit is 33-67%, which is shown in Figure 3 in the financing and total balance.

Figure 9: The calculation and development of the municipal GFS balance 2004-2012



Source: Author’s calculations and elaboration based on Budget Bill No. T/1498 and T/4365 and the data of the Hungarian State Treasury

The GFS balance also indicates how great is the financing need of the operating and the investment budget of municipalities. The composition and examination of the balance shows clearly the nature and structural properties of the financing need of the sector. This need may be satisfied from reserves, from borrowings, or from both.

3.4. The development of reserves

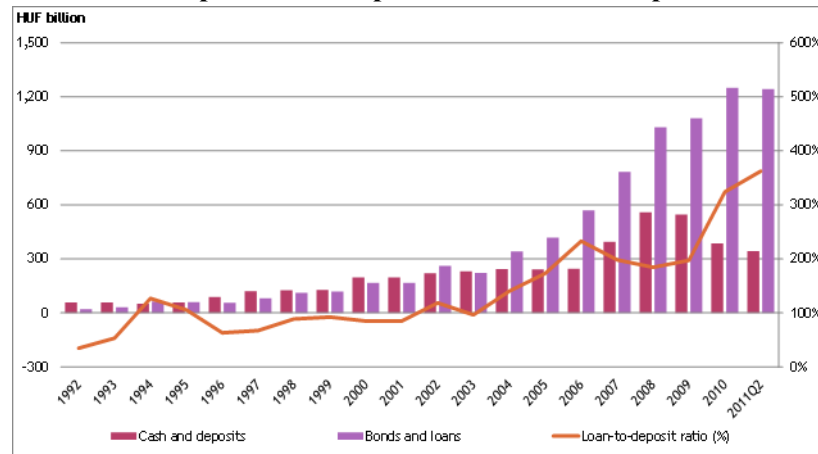
Reserves in the municipality budgets are labelled according to their origin, namely, they can be budgetary or business reserves. Reserves accumulated from municipal bond issuances are considered as special budgetary reserves. These assets are mostly invested in demand and time deposits or state bonds. Figure 10 illustrates the development of the balance of cash and deposits, together with bank liabilities.

The balance of cash and deposits had been increasing steadily and consistently with the balance of liabilities until the end of 2003. Since 2004, the year of Hungary’s accession to the European Union, the growth of liabilities has been exceeding the growth of cash and deposits, which might be the result of the (pre) financing of EU-funded investments. The accumulation of reserves became the driving force of municipal credit demand in 2007 and 2008: municipal cash and deposits were increasing significantly as a result of the popularity of municipal bond issuances which, in turn, were driven by the reserving motive. The reasons behind reserving were the following:

²² The complete division of the 2010 municipal GFS86 balance: cities with county rights – HUF 63.8 billion, towns – HUF 58.9 billion, counties – HUF 31.5 billion, Budapest – HUF 26.3 billion, villages – HUF 25.9 billion, capital districts – HUF 25.5 billion.

- The central government made steps to strengthen the control over municipal borrowings in 2007²³ which in the end did not come into force (owing to the lack of 2/3 supporting majority in the Parliament) (Vasvári, 2009).
- The settlement and drawdown of market and refinanced loans is complicated, unlike bonds, the proceeds of which are free-to-use (Gál, 2010). Loan instruments are not suitable for reserving purposes as many of the lending conditions are fixed and specific (e.g. commitment period).
- Bond issuances are not subject to the Act on Public Procurement.

Figure 10: The municipal loan-to-deposit ratio and its composition 1992-2011Q2



Source: Author's calculations and elaboration based on the data of the Central Bank of Hungary

The increasing, mostly reserve-driven credit demand also met an increasing credit supply – with looser conditions as banks had to pay a low margin on interbank foreign exchange funds.²⁴ The municipalities deposited the external funds they acquired mostly from foreign currency denominated bond issuances into HUF accounts, exchanged. This meant a favourable carry trade²⁵ position for the municipalities while the banks could collect HUF funds at a discount price. The exchange rate risk implied in the conversion rested upon the municipalities. The expansion of the municipal credit market might also be driven by oligopoly competition: based on credit value, seven financial institutions dominate 97% of the municipal financing market (MNB, 2011). The rating of municipalities was also enhanced by faith in the operational continuity of municipalities, which means that a municipality cannot be terminated without a successor and their income cannot be fully depleted (Homolya-Szigel, 2008). Due to these facts and to certain information asymmetries characteristic of the sector, the margins payable above the reference rates of municipal loans and bonds cannot be considered reliable risk indicators. Gál (2010) states that the rating and risk of municipalities is reflected primarily by the non-interest conditions of credit instruments (maturity, collateral, credit line, additional commitments).

The revaluation effect of foreign exchange liabilities and the drop in reserves caused increasing deterioration in the net financial assets of the municipalities which is also represented by a 362% loan-to-deposit ratio in 2010.²⁶

²³ Bill No. T/4320 on the amendment of Act LXV of 1990 on Local Governments, 9 November 2007

²⁴ See further details in Páles-Homolya (2011).

²⁵ See further details in Vasvári (2009).

²⁶ Based on the System of National Accounts prepared by the Central Bank of Hungary (S.1313).

3.5. The role of debt service

The impact and feedback effects of debt service will be examined in detail later in this study. We note here only that refinancing principal payments (debt service ²⁷) from financial revenue (borrowing) is common practice in the public sector. This does not trigger an increase in indebtedness as revenue and expenditure are netted within the financial budget, only the total budget is grossed up. However, the financing of current expenditures (such as interest and other bank fees) from financial revenues increases indebtedness. In addition, underlying credit that refinances debt service involves a *secondary* crowding out effect as well: as the municipality is not able to decrease its indebtedness it will be unable to get new funds to finance its ongoing investments.

4. The indebtedness of municipalities

Municipal debt forms part of the consolidated general government debt. In spite of this, the state does not stand surety for municipal liabilities directly and there is only a passive control on debt service defined by law ²⁸ in order to limit the indebtedness of municipalities until 2011. Kovács (2007), Homolya-Szigel (2008), Aczél-Homolya (2011) and Vasvári (2009) conclude that this regulation does not constitute an effective limit on municipal borrowing. The consequences are the following:

- There is no state bail-out in cases of municipal insolvency, although, with the recent turbulent market conditions in view, any possible debt settlement process may increase the sovereign risk of Hungary (Aczél-Homolya, 2011). The consequences of previous debt settlement processes is analysed in detail by Jókay and Veres-Bocskay (2009), Gál (2010) and Aczél-Homolya (2011).
- As the borrowing limit was not effective, the indebtedness of municipalities may increase only through the control of financial institutions. The municipal debts are consolidated into the public debt. Figure 11 shows that the development of municipal debt (with the exchange rate effect excluded) is similar to the trend that the development of public debt follows, however, on a significantly smaller scale.

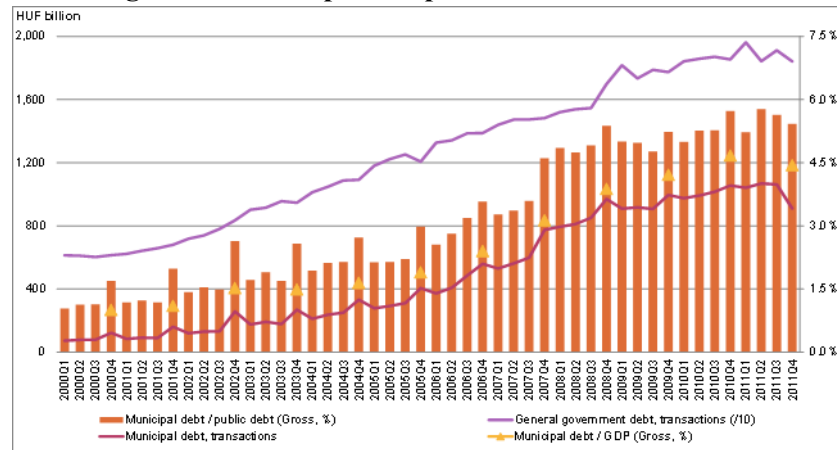
Public debt – in addition to the budget deficit – is one of the few significant indicators that investors seriously take into account. ²⁹ Therefore, it is also regarded as a fiscal anchor in the economic policy of the government and is included among the Maastricht criteria as well. The statutory borrowing limit we have cited above maximizes debt service per municipality, however, it does not contain any restrictions with regard to breach of the regulation. Although the calculus of the limit was adopted by the banks with certain adjustments (Vasvári, 2009), earlier (until 2009) it was not in their interest to enforce restrictions on the municipalities. Higher interest rates (margins), tighter lending conditions or a credit-stop would have entailed a drop in their market share and defeat in the credit competition.

Municipal debt compared to public debt was only 1% in 2010 but increased to 6% by the end of the first half of 2011. The public debt/ to GDP ratio grew from 59.4% to 82.5% in this period, while the contribution of municipal debt to the total debt ratio rose from 1% to 4.7%.

²⁷ For the purposes of this study and unless otherwise indicated debt service is equivalent to principal payments. Interest and other fee obligations are considered as operating expenditures.

²⁸ See the Act on Local Governments

²⁹ This statement is even more actual in the recent debt-crisis sweeping through Europe and the US.

Figure 11: Municipal and public debt 2000-2011Q2³⁰

Source: Author's calculations and elaboration based on the data of the Central Bank of Hungary

The most typical instruments of municipal borrowing are long-term loans and municipal bonds. Their share in financing was almost equal, 52%-48% at current value, at the end of the first half of 2011. The majority of bank liabilities were denominated in foreign currency and their share in the same period was 61.7%. The revaluation of these debts may have the following consequences:

- Higher exchange rates increase the debt service of loans/bonds, which boosts the crowding out effect of debt service as well. Potential feedback effects include the improvement of the GFS balance (reorganization motive), the deterioration of the total balance (the spending of reserves) or the increase/maintenance of the level of indebtedness (restructuring motive). The profitability of financed projects may also be required to increase.
- Revaluations are non-realized gains/losses. The accounting of revenues/expenses from revaluation happens only through interest or principal payments (or prepayment).
- Revaluations are consolidated into the public debt. The virtual municipal debt increase issuing from revaluation was HUF 174.4 billion³¹ at the end of the first half of 2011, only 0.8% of total public debt.
- Revaluations – like depreciation – are accounted on cash basis and appear only in the balance sheet, between equity and liabilities.

We can conclude that the debt of municipalities is not significant relative to consolidated public debt. Therefore, municipal indebtedness in itself does not cause structural concerns. However, the amortization (debt service) of municipal indebtedness needs careful attention as it can affect the economic policy, management and performance of both municipalities and the central government.

4.1. Motivating factors behind municipal indebtedness

Previously we have introduced the possible theoretical motives of increasing municipal indebtedness. In this short chapter, we will quantify and weigh the different motives that have been stimulating municipal borrowing since 2004 (Figure 12).

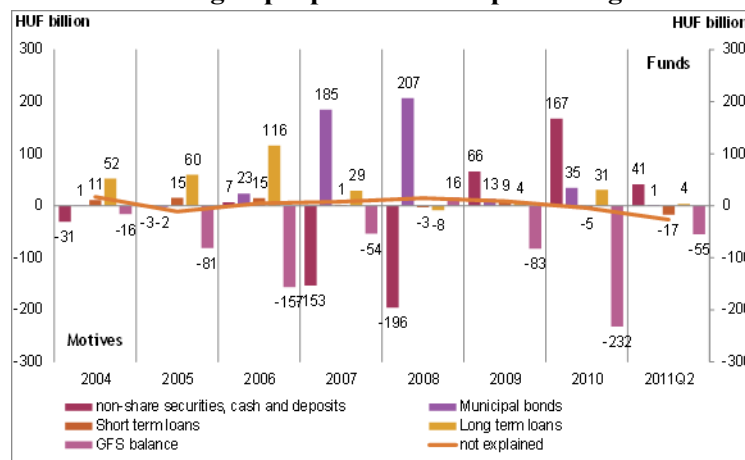
Funded projects must be specified in loan agreements or in bond documents (including the information memorandum). This may limit the drawdown of loan funds significantly, while the debiting of funds

³⁰ In order to provide a better illustration Figure 11 displays only one tenth of the total public debt.

³¹ Constituting 14% of total municipal debt at the end of the first half of 2011.

from bond issuances may be less restricted.³² In spite of this, municipalities generally aim to define viable long-term projects when issuing bonds.

Figure 12: Funds according to purpose in municipal management 2004-2011Q2³³



Source: Author’s calculations and elaboration based on Budget Bill No. T/1498 and the data of the Hungarian State Treasury and the Central Bank of Hungary

Borrowings were used to finance the GFS deficit from 2004 to 2006, however, the intention behind the “boom” of municipal bond issuances in 2007 was mostly to accumulate reserves and state bonds, while only HUF 25 billion was spent on counterbalancing the GFS deficit. The refinancing of loans was not a significant motive. Reserves continued to increase in 2008, driven by the sustained bond “boom” and by the surplus of the GFS budget. A slight decrease was perceptible in long-term loans, which was probably the result of ordinary debt service or refinancing. As the municipal credit market was frozen and there was a lack of any other options, in 2009 municipalities financed their GFS deficit mostly from reserves. Although the municipal credit market “melted” in the following (election) year (with HUF 66 billion of new borrowings), the largest part of the peaking GFS deficit was financed from reserves. This trend continued in 2011.

We can conclude, then, that the refinancing of debt is not a typical practice in the municipal sector. HUF 662 billion in funds was spent on GFS deficit from 2004 to 2011Q2, the biggest share of which was used to finance municipal investment activity, including own contribution to EU tenders. Meanwhile, in 2007 and 2008 municipal bond issuances were driven by the desire to accumulate reserves, however, there were only HUF 71 billion left of the reserved HUF 349 billion by the end of the first half of 2011. This drop in reserves was brought forth by newly launched projects and the lack of credit funds in 2009 and 2010. The extra funds from bond issuances covered structural deficiencies which were revealed when cash started to shrink from 2009, 3-4 years later than due owing to the grace period of bonds.

Moreover, financing items are not included in the GFS budget, therefore, spending external (borrowing) or internal (reserve) resources to finance GFS expenditures (operating or investment) causes a direct deterioration in the GFS balance.

³² Except if banks agree with the municipalities about the restriction of fundable items.

³³ For the GFS balance of the first half of 2011 we considered 50% of the planned balance in the Budget Bill for 2011.

5. Debt service

The debt service related to municipal indebtedness poses a significant challenge to the executives of municipalities and also to bank managers. In the following, we will review experiences and anticipations regarding municipal debt service and evaluate the crowding out effect the deficit mechanism gives rise to.

The repayment of short-term loans lagged behind the repayment of short-term borrowings in 2010 (HUF 57 billion compared to HUF 111 billion) that resulted in a peak in the increase of short-term liabilities at HUF 54 billion, treble the previous record of HUF 18 billion in 2006. In particular, overdraft loans amounted to HUF 116 billion in the middle of 2011 (Aczél-Homolya, 2011), so the liquid loan financing of municipalities, in which the municipalities “got stuck” as a result of the unfavourable financing structure of their daily operation in the previous years, is significant.

The debt service of long-term loans has been steady since 2004 (HUF 51 billion in 2010); the weighted average of their maturity since 2004 is calculated at 8.4 years. Compared to municipal bonds the maturity of loans is 10 years shorter. As the Successful Hungary Municipal Infrastructure Development Loan Programme launched by the Hungarian Development Bank in the past few years includes a grace period for principal payments, too, the estimation may be distorted.

The debt service related to municipal bonds was the lowest in 2010 (HUF 14 billion), but on the increase. This can be traced back to the grace period on principal payments, however, the amortization of loans in certain cases includes increasing, “progressive” principal payments over the maturity period.

Now we will estimate the future municipal debt service of each credit instrument, respectively, with the level of short-term loans considered unchanged (as short-term loans are repaid and borrowed in each fiscal year).

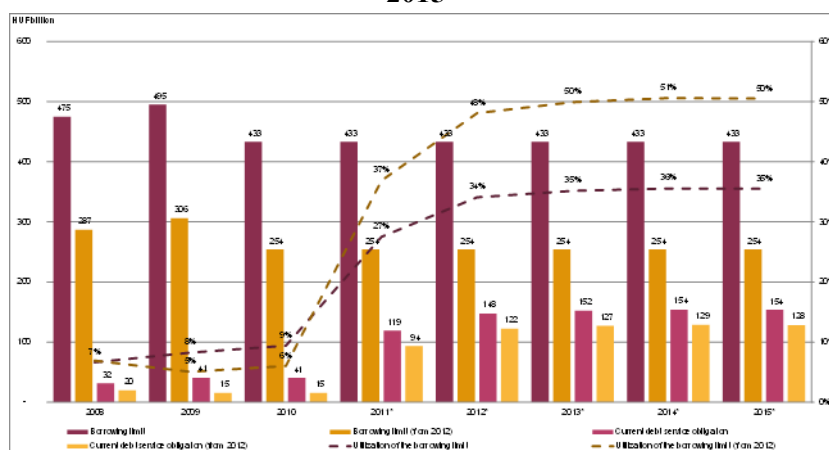
To estimate the debt service of municipal bonds we used the collected data of a previous study (Vasvári, 2009). The estimation of expected reference rates and exchange rates are carried out along three different scenarios.³⁴ The calculation shows that the debt service of municipal bonds will peak in 2014–2015 at HUF 55 billion (Figure 13). This represents a significant increase compared to the estimated (HUF 11 billion) debt service in 2010.

With the debt service of long-term loans³⁵ added to our calculations, the burden debt service imposes on the municipal sector may be over HUF 100 billion in 2015. There is a significant drop in debt service observable in 2027 and 2028 as the majority of municipal bonds issued in 2007–2008 have an initial maturity period of 20 years.

While regulations are weak growing debt service has a significant effect on the management of municipalities, as hundreds of billions of forints have to be repaid as debt service in the following years. This demand – given the closed financing system of municipalities – can be satisfied only from four different sources: the (1) operating, (2) investment (capital) and (3) financing budgets or from (4) reserves.

³⁴ Estimation conditions and the macro variables assigned to each scenario are included in the appendix.

³⁵ We assumed a maturity period of 10 years for existing debts as of the end of 2010, without any new long-term borrowings. The possible grace period of loans is ignored.

Figure 14: Meeting the municipal borrowing criteria as defined until 2011 and from 2012, 2004-2015³⁶

Source: Author's calculations and elaboration based on the data of the Hungarian State Treasury, the Act on Municipalities and Government Decree No. 353/2011 (XII. 30)

Nevertheless, the revenue arising from financed projects may be used as the primary source to fund debt service, lessening this way the burden on the ordinary cash flow of municipal budgets. Most municipal-financed projects, however, do not generate net revenue, therefore, financing debt service from project revenues – as we have mentioned earlier – is not typical in Hungary.

There are two possible ways to finance debt service from investment revenues: either from proceeds from asset disposal or from investment subsidies granted by the state or the EU. Both can be used to finance asset replacement, i.e. debt service related to long-term project loans or bonds. However, if the debt service is related to bonds or loans that served the purpose of financing operating activities (deficit), it is considered as the “consuming” of assets, and thus, breach of the *golden rule*.

Increasing debt service may also result in the adjustment of investment expenditures, however, these obligations are in the most cases contractually fixed. Moreover, the proportion of non-refundable subsidies in EU funded projects is high, therefore, municipalities rarely postpone or cancel their projects in the short run because of an increase in debt service. If investment plans are considered in the long run, municipalities may cancel projects in order to have sufficient funds to cover debt service. In this case, the crowding out effect of increased debt service appears only in the long run.

The refinancing of debt service or prepayment from financial revenue (new borrowings) is called the debt spiral. Liquid loans, which are borrowed and repaid within a year, constitute an exception as these items gross the total budget but do not bring forth the deterioration of the balance. However, a *secondary* crowding out effect is also involved: as the municipality cannot decrease its indebtedness it will be unable to get new funds to finance its on-going investments. It also indicates a serious problem if municipalities spend further borrowings on the current interest and bank fee obligations of existing loans, which again increases their indebtedness.

Our conclusion is that municipalities should accumulate funds in their operating budget in order to finance debt service. This has a twofold effect on their daily operation. On the one hand, municipalities may increase their controllable revenue³⁷ which translates into an increase in the rates

³⁶ Based on estimated debt service for the period starting from 2011. The rest of the variables are fixed at the 2010 value.

³⁷ The need for a “painful” increase in controllable revenues may be decreased by extraordinary and operation deficit (ÖNHKI) grants received from the central government.

and bases of taxes, or a review of tax discounts. The collection policy of municipal (tax-)receivables may also be tightened. On the other hand, the increased debt service may compel municipalities to decrease expenditures, which would require a complex and comprehensive reorganization. Municipalities may initiate measures to meet the criteria of the 3Es³⁸ (efficiency, effectiveness, economy) (Vigvári, 2005) or suspend the provision of voluntary public services.

If there is a lack of necessary funds in the operating and investment balance to cover debt service debt has to be financed from reserves, which will appear in the total deficit of municipalities. Financing debt service from reserves does not influence the net financial assets³⁹ of municipalities negatively, however, the payment of additional interests and fees from reserves accelerates the depletion of financial assets.

Reorganization, adjustments in the investment budget (e.g. postponing investments) or the depletion of reserves are direct results of the **crowding out** effect caused by (increasing) debt service: an increase in financial expenditures can be financed only through the adjustment of either revenues or other expenditures. If this does not succeed expenditures will be adjusted to revenues as the closed financing system stays always in balance. In practice this means that liabilities become overdue and payments may even be suspended (note that according to the cash method there is no accounting in this case), which leads to latent bankruptcy (Vigvári, 2010). In this case, committed liabilities cannot be financed from revenues and reserves (insolvency, weak financial standing) and at the end of the process the municipality goes “bankrupt” and the municipal debt settlement process begins.⁴⁰

Financing debt service from the operating or the investment budget results in the recovery of the GFS balance as financial expenditures are below-the-line items in the GFS budget. Thus, increasing debt service entails a favourable structural feedback on the consolidated GFS balance of the general government.

Conclusions considering the new municipal framework

Figure 15 summarises briefly the conclusions of this study, that is, how the inter-budget financing of deficit affects municipal management.

While we discuss our conclusions regarding the effects of the deficit mechanism on the management of municipalities we will also touch upon and evaluate the relevant paragraphs of the acts recently introduced to reform municipal management.

Municipalities can take only insufficient measures (from an economic point of view) to finance their operating deficit which is indicative of structural issues. The Act on Economic Stability of Hungary restricts the temporary and prohibits the year-end financing of operating deficit from borrowings. According to the Act on Local Governments of Hungary, a new (service-based) financing system will be introduced from 2013, which is planned to eliminate deficit arising from the delivery of public services on the required level.⁴¹ The consequence of this new system is, on the one hand, that municipalities may finance operation only from liquid loans (redeemable within a year) from 2012.

³⁸ E.g. more efficient cash management, centralized procurement, the review and tightening of cost management and procurement processes.

³⁹ See details on the net financial assets in Vigvári (2010).

⁴⁰ To avoid or ease these burdens municipalities often initiate re-negotiation, review or restructuring of contracted liabilities, e.g. loan restructuring, payment discounts or instalment payment.

⁴¹ A deficit cannot be planned from that year on either.

Therefore, municipalities have to get rid of their existing liquid debts they got “stuck in” in recent years (HUF 116 billion in 2010). The total repayment of these liquid loans would result in a significant crowding out effect, however, it is more likely that these loans (mostly overdrafts) will be converted to term loans with a definite maturity and the full amount will be prepaid in fixed instalments, which will distribute the crowding out effect evenly. Moreover, as the financing of year-end operating deficit from borrowings is prohibited from 2012 (one year before the introduction of the new financing system) the intensity of the crowding out effect will increase further. At the same time, the law (in force from 2013) allows the operating deficit to be financed from other budgets, such as investment revenues and reserves. Therefore, the phenomenon of the operating deficit itself will not be resolved, only its inter-budget financing limited. It must also be noted that unforeseen increases in debt service (i.e. due to the exchange rate and reference rate risk) intensify the reorganization and crowding out effect, which remains a problem even if debt service is declared as compulsory public service. Either with or without the declaration it is still uncertain what funds the municipalities will rely on to finance debt service from 2013.

Figure 15: Inter-budget financing and its effect on municipal management

	Operation budget	Investment (capital) budget	Financing budget	Reserves
Operation deficit	(reorganization)	"consuming" assets postpone projects	indebtedness	spending reserves
Investment (capital) deficit	postpone projects	(asset replacement)	indebtedness, distributing expenses between the generations	spending reserves*
Financing deficit (Debt service)	crowding out effect	Project prefinancing "consuming" assets crowding out effect	(restructuring, re financing)	spending reserves**
Accumulating reserves	✓	"consuming" assets*	indebtedness carry trade	n/a

* If a reserve from proceeds from asset disposal is spent on investment deficit, it is considered as - delayed - asset replacement

** Acceptable, if the financed debt service is not related to operation debts.

Source: Author's elaboration

We can conclude that asset replacement is closely related to the provision of public services at the required level and can cause significant – uncontrolled – GFS deficit if it is not declared as compulsory public service. Therefore, it is advisable to include these expenditures in the new financing system in force from 2013.

Borrowing is a highly applicable means to satisfy the significant financing need of the municipal investment budget, as it realises the pay-as-you-use principle (the distribution of investment expenditure among the benefiting generations) (Vigvári, 2002). This is the only fair and economic option, as financing projects from operation savings would result in the postponing of investments because of insufficient funds. The Act on Economic Stability of Hungary states that municipal borrowing is subject to governmental approval.⁴²

⁴² The Act establishes the following borrowing purposes as exceptions: prefinancing and own contribution of subsidies, reorganization loans taken out during a debt settlement process, liquid loans, loans under HUF 100 million requested by Budapest and cities with county rights, loans under HUF 10 million requested by other municipalities.

According to the Act, the government approves – exclusively investment-related – municipal borrowings if the project concerned remains within the new borrowing limit (see below), if it does not mean any threat to the target for consolidated public debt set in the current year's budget act, and if sufficient capacity is reserved in the budget for the provision of public services and the payment of additional debt service without default.⁴³ In spite of these, the government should focus more on the nature of municipal investments rather than on borrowings. The reasons for establishing more active control over capital expenditures are the following:

- This assessment or reviewing function may fit in well with the new role of county municipalities regarding urban and regional development management. It is important that independent or elected institutions should review the initiated project in order to ensure that a neutral decision, representative of the priorities of the voting public is made. This would also accelerate the decision-making process.
- By reviewing projects, investment related funds – including borrowings – could be indirectly approved. As only investment related long-term borrowings are allowed by the law from 2012, further indebtedness could also be kept under control.
- The GFS balance shows the net internal (reserves) or external (borrowing) financing need of a municipality. As financial revenues are not included in the GFS budget, spending borrowings on GFS expenditures, such as investments, would result in the deterioration of the sectoral and the consolidated GFS balance as well. Although the Act on Local Governments declares that municipal borrowings have to comply with the consolidated debt target stated in the budget act each year, we can conclude that – as municipal debts are immaterial in the public debt – the control over the spending of financial revenue is lax. Moreover, the Act does not consider borrowings for own contribution and the pre-financing of subsidies, which enhances the weaknesses of the regulation and lets GFS deficit go out of control.
- Focusing on investments would prevent a draft loan agreement, applied for in a time- and cost-consuming public procurement process, to be refused by the government.
- Focusing on investments would prevent the increase of indebtedness driven by the reserving motive and, consequently, speculation on the money market would also disappear.
- The Act on Local Governments of Hungary stipulates state suretyship for the completion of projects subsidized by the EU (in case municipal insolvency threatens the drawdown of subsidies). Therefore, the government should track and monitor municipal investments throughout the life of the project.
- The focus on investments may also facilitate the launching and execution of a more comprehensive framework for regional and national development that would guide municipal investments, as well. This would be essential as municipalities are responsible for about 50% of state investments (Vigvári, 2011).

Some of these thoughts are reflected by Government Decree No. 353/2011. (XII. 30.), as it prescribes a reporting obligation for municipalities regarding their investments in the pipeline in the current fiscal year (the relevance of investments to compulsory public services must also be stated). In the approval process of each draft loan agreement the purpose of the loan is checked against the submitted investment list – although in special cases this may be ignored. However, this practice means only a weak control over the nature and timing of investments, as it only rejects ad-hoc investments and

⁴³ The incorporation of this provision in the Act on Economic Stability is very welcome, as Vigvári (2002) also proposes the introduction of the term “financial capacity” into the control of municipal indebtedness. The practical consequence of the crowding out effect is in fact that it establishes the sufficient financial capacity to finance debt service – subsequently.

explicitly reserve-driven borrowings. Moreover, the government is the subject of the decision making and the escalation process over three levels⁴⁴ slows the administration considerably.⁴⁵

The debt service of investment related borrowings may be covered primarily from the net project revenue of financed projects, however, there is no net revenue requirement laid down for Hungarian municipality projects, and sometimes they even result in increasing operating expenditures. Investment revenue can finance only investment related debt service that arises either from loans pre-financing EU subsidies or borrowings that finance new assets or asset replacement. All other cases presuppose structural deficiencies.

If the origin of both the reserves and the debt service is an investment activity, reserves can be spent on the debt service without risking structural issues. However, financing debt service from reserves that originate from borrowings may lead to the deterioration or closing of the carry trade position which, in turn, decreases interest gains while the net financial assets of the municipality remain constant.

The Act on Economic Stability of Hungary allows the refinancing of debt service or the prepayment of loans from financial incomes (borrowings). We have to note, however, that the refinancing of loans is currently not timely and is not to be expected, as municipalities got funds with more favourable conditions and a long maturity prior to the economic crisis. Refinancing would also mean the realization of unfavourable exchange rate conditions in the case of foreign currency funds.⁴⁶

As a consequence of the deficit mechanism, the occurrence or growth of debt service – given the lack of any project revenues – results in a drop in reserves, the “consuming” of assets, reorganization, refinancing, or, in the worst case, a debt settlement process. Regarding the transitional year of 2012 the government should consider a reform of reorganization loans, which would allow municipalities to apply for an interest subsidy without being in a state of bankruptcy. This would give municipalities impetus for early reorganization in order to avoid a debt settlement process and would also enable municipalities to refinance their loans at lower – state-subsidized – rates. Moreover, reorganization, the earlier the better, would stop or slow the “consumption” of assets and reserves.

The indebtedness of municipalities and the revaluation risk resulting from high foreign currency exposure is not significant in terms of consolidated public debt; it does not entail serious structural issues. In spite of this, the debt service of municipal debt, where applicable, imposes a great burden on each municipality. The profession has been proposing modification of the methodology with regard to the ineffective borrowing limit for years. As opposed to the short-term, current-year focus defined by the Act on Local Governments, the Act on Economic Stability of Hungary sets requirements for debt service throughout the entire maturity period. Although the formula used for the calculation of the borrowing limit also changed,⁴⁷ this will not mean a significant change in practice, as – based on our

⁴⁴ 1. The competent regional directorate of the Hungarian State Treasury 2. The regional government office or the Government Office of the Capital City 3. The government acting upon minister’s proposal (including the Minister for Municipal Affairs and the Minister for Public Finances).

⁴⁵ According to the quoted regulation the time frame of a decision is ca. 2-3 months. With the prior public procurement process also considered, the full administration of a loan agreement may last for even 4-5 months.

⁴⁶ For this reason, municipalities rather request the extension of the grace period of existing bonds/loans.

⁴⁷ From 2012 own revenues do not include the income from motor tax, administration fees and interests. Proceeds from sureties and asset disposal, on the other hand, are included in the calculation. Payments to trade debtors and replacement expenditures related to assets in concession are not considered as limit-decreasing items from 2012. The limit ratio sank from 70% to 50%, while – according to the new formula – own revenues have to be discounted with the ratio prior to the consideration of liabilities (until 2011 liabilities were deducted from own

prior estimation – the municipal sector will be free to run up debt with an additional debt service of HUF 125 billion until the new borrowing limit is reached.

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Appendix

Table 1: Macro variables in each scenario considered in the estimation of the debt service of municipal bonds from November 2011

	Best case scenario	Probable scenario	Worst case scenario	Estimation interval	Estimation interval %
HUF/CHF	200	240	280	80	33%
HUF/EUR	260	300	340	80	27%
CHF Libor 3m	0.004%	0.005%	0.006%	0.002%	40%
CHF Libor 6m	0.040%	0.050%	0.060%	0.020%	40%
Bubor 3m	5.200%	6.100%	7.000%	1.800%	30%
Bubor 6m	5.200%	6.100%	7.000%	1.800%	30%
Euribor 3m	1.300%	1.500%	1.700%	0.400%	27%
Euribor 6m	1.500%	1.750%	2.000%	0.500%	29%

Source: Author's elaboration

Table 2: Parameters considered in the estimation of the debt service of municipal bonds

	Interest margins used in the estimation, bp	Grace periods used in the estimation, years
Budapest districts	64	4.00
Villages	118	3.49
Counties	75	4.18
City with county rights	156	4.15
Towns	85	3.48

Source: Author's calculations

Note: The parameters represented above were applied to bond issuances if the requested data were not available. The parameters are volume-weighted values. Interest and principal payment periods were set at 3 months and 6 months on a 50-50% basis.