

Erzsébet Gál

Is It Necessary to Regulate Local Governments' Borrowing?

The Lessons of the Hungarian Case

SUMMARY: The international literature specifies four models to the rule of the local governmental indebtedness. The „regulated by the market model” and the „rule based model” are able to be in force in the Hungarian local governmental crediting market considering the Hungarian legal environment. The Hungarian empirical researches obtained the result that the Hungarian market follows the „regulated by the market model” from the models of Ter – Minassian – Craig. The essence of the market regulated model—that for the players of the subnational level the raising of external funds is determined by money and capital market developments and mechanisms—examining the domestic market by itself, cannot be substantiated. The success of the market regulated model is also hindered by the fact that market participants are not perfectly informed. Based upon my empirical researches and supplementing the models found in technical literature, I have established that at the Hungarian local governmental crediting market the regulation of indebtedness can be deemed a model “based on incurring risk”. The study tries to verify this thesis.

KEYWORDS: indebtedness, bank, crediting market, local government, risk

In connection with the regulation of local governments' indebtedness, the literature on public finances (Ter – Minassian – Craig, 1997) distinguishes four basic models: market regulated model, centrally controlled model, rule based model and cooperative model. Regulation in other fields of economy (e.g. in the banking market regarding risks or in issues related to accounting rules of enterprises etc.) is characterised by the creation of international standards. These standards, in turn, are implemented by countries within their own legal systems. The legal regulations that determine the operation of the system of local governments evolve in line with the features of the given municipality system in each country. The regulations have a local nature. These features are determined by the evolution of the municipality system of the given country and the circumstances of this evolution.

Researches in Hungary that empirically examined the indebtedness models of local governments found that of the four general models drafted by Ter – Minassian – Craig, the Hungarian practice follows the characteristics of the “market regulated model”. (Homolya – Szigel, 2008; Vígvári, 2009). However, studying the models may also lead to other conclusions. Doesn't the law that regulates the rules of operation of local governments (Act on Local Governments) or the Act on the Debt Settlement of Local Governments, which is considered to be a “Hungaricum”, justify an explanation of the domestic regulation of the indebtedness of local governments with the rule based approach? Or do the main characteristic features explored during the examination of the local government lending market of Hungary warrant the drafting of a new model? This study searches for answers to these questions through an

analysis of the most important circumstances in the local government lending market.¹

THE REGULATION OF INDEBTEDNESS IN THE LOCAL GOVERNMENT LENDING MARKET

Several studies deal with the operation and definition of markets,² but, given the nature of the subject, defining the concept of market is no easy task. Within market – as a comprehensive concept – *financial markets* mean special markets. From the aspect of modelling their operational mechanisms, the theoretical model of *perfect market* can be considered as an important milestone. (Brealey – Myers, 1998)

An important phase in the development of the theories related to financial markets (and in the train of thoughts of this study) is the *model of efficient markets* (Fama, 1970), which has served as background and framework for empirical studies since the birth of the theoretical model. The theory of efficient markets has been exposed to attacks and empirical denials since the mid-1980s. It has been proven that capital markets do not always meet the criteria of information efficiency. (Komáromi, 2002)

Disorders experienced in the flow of information, i.e. information asymmetries, may be the main obstacles to both market perfection and market efficiency. In financial markets, debt is a relationship that reflects a special information asymmetry, where the debtor on the demand side always has more information on his own ability and intention to repay the loan than the creditor on the supply side. (Diamond, 1984; Király, 1995)

This study examines the interrelationship of *commercial banks* as financial intermediaries and *local governments* as savers and investors at the same time, *in the money and capital markets, which do not work perfectly and efficiently*. In terms of the instruments examined, it primarily

discusses the questions of *credit and bond based financing* in detail. The choice between the two instruments is determined by the characteristics of credit and bond that can be captured through the given market segment. Overall, it is determined by market rationality. This market is consistently called *local government lending market* in this study below.

The literature on public finances (Ter – Minassian – Craig, 1997) that deals with the regulation of local governments' indebtedness distinguishes four basic models. The first one is the *market regulated model*, in which there is no state guarantee for the debt of local governments, market participants are perfectly informed, local governments behave in a fiscally sensible manner, and the market players that finance them do not have any competitive advantage. The essence of the market regulated model is that for the players of the subnational level, borrowing is determined by money and capital market developments and mechanisms. The less guarantee is undertaken by the central government for the repayment of loans to local governments, i.e. the more obvious the lack of implicit government guarantee is for the market participants, the stronger this control is. (Barati, 2002)

The second model is the *centrally controlled model*, where the regulation is focused on permitting the borrowing. The internationally known regulations differ from one another in the extent to which the central budget stands behind the local government in case of default, and in whether there is any limit to the indebtedness of local governments. Namely, these limitations are practically able to minimise the risk of the creditors of the sector.

Based on all the above, there are two fundamental techniques of the central limitation of borrowing by local governments: *active and passive control*. In the case of *active control*, borrowing requires the central government's approval or the approval of the community

concerned through local referendum. In the case of passive control, some kind of benchmark, a maximum amount of loan may be determined (for example, as a percentage of a budget indicator), or borrowing may be limited exclusively to investment purposes.

State guarantee is not automatic for local governments with independent budget, although setting up special guarantee funds supported by the government (European solution) or the operation of credit insurance institutions on a business basis are frequent solutions. Systems that work in practice as well feed on both solutions.³ (Kopányi – Vigvári, 2003a)

In addition to the aforementioned two models, the *rule based approach* and the *cooperative model* are also known in the regulation of indebtedness. In the countries where indebtedness is regulated according to the rule based model, excessive borrowing is limited by rules set out by law. In the case of local governments operating on the basis of the *cooperative model*, the leaders of local bodies decide on the extent of indebtedness in agreement with the central government (in a cooperative manner).

THE HUNGARIAN CASE IN THEORY

Based on studying the theoretical correlations of the four models, we can easily conclude that the regulation of indebtedness of local governments in Hungary follows the rule based approach. This may be supported by the fact that the local governments' borrowing limit was included in the Act on Local Governments when it was amended in 1995 (Section 88). Accordingly, local governments' annual commitments originating from debt may not exceed 70 per cent of the value of own revenues reduced by short-term liabilities.

In addition, the Act on the Debt Settlement of Local Governments, which is considered to be a "Hungaricum", also intends to regulate

excessive indebtedness and the situation when local governments become unable to function. The Act defines the mandatory tasks that local governments have to perform even in the course of debt settlement, and regulates how the continuity of local public services have to be ensured following the reform of the financial management of local governments. It also stipulates the conditions of launching the procedure (undisputed debt overdue for more than 60 or 90 days). (Herbst – Szegvári, 1996; Jókay – Osváth – Sóvágó – Szmecana, 2004; Jókay – Veres-Bocskay, 2009) This Act also stipulates that the central government does not support the local governments with its guarantee. Furthermore, it summarises the rules of debt settlement between the debtor local government and the creditor.

In contrast, however, the researches by Homolya – Szigel (2008) and Vigvári (2009) came to the conclusion that while there is no legal sanction of the non-compliance with Section 88 of the Act on Local Governments and with the rules set out in the Act on the Debt Settlement of Local Governments, the practice in Hungary operates more according to the market regulated model. Namely, the risks inherent in the local government system all call attention to the fact that the observance and enforceability of the borrowing limit set forth by law is not ensured even in the short run. The underlying reason is that the leaders of local governments are not responsible for the medium- or long-term observance of the limitation stipulated by law, and thus they tend to run into debt in the present on account of the future.

The theoretical fundamental conditions of the market regulated model assumed by empirical researches are as follows.

① The same regulations apply to local governments and other market participants, i.e. local governments do not enjoy any privileges during the lending procedure.

② All participants of the lending process have the same information, i.e. all the necessary data and information can be obtained about the local governments as borrowers.

③ Market participants, including local governments, behave in an economically rational manner.

④ There is no explicit or implicit government guarantee behind local governments' borrowing. (Ter – Minassian – Craig, 1997)

Further on, through a brief analysis of the demand and supply sides of the local government lending market, this study attempts to present which of the models is relevant.

THE HUNGARIAN CASE IN PRACTICE

Supply-side features

Since 2004, it has been mandatory for local governments to select their account-holding bank through a public procurement proce-

dure.⁴ Today, the budgetary suspense account is still allowed to be kept by only one bank, although banks may compete for this status.

Examining the market competition for keeping local governments' accounts (*see Table 1*), *OTP Bank*, which can be considered the market leader with its share of 68 per cent, represents the highest weight. In parallel with the market dominance of *OTP*, a steady increase in the market share of *Takarékszövetkezeti Integráció* (Integration of Savings Co-operatives) is observed; they took second place in the local government lending market in 2008. In terms of the increase in lending dynamics, *Raiffeisen Bank* should be mentioned. The bank in question was able to increase its market share in a steady and aggressive manner in the period under review. In addition to the aforementioned three market players, *Erste Bank*, *K&H Bank*, *CIB Bank* and *Commerzbank* were able to secure a higher market share.

The fight for clients is extremely fierce. This is justified by the fact that the number of big-

Table 1

CREDIT INSTITUTIONS THAT KEEP LOCAL GOVERNMENTS' ACCOUNTS

Credit institution	June 2006		September 2006		June 2007		March 2008		June 2010	
	ea	%	ea	%	ea	%	ea	%	ea	%
OTP Bank	2 325	72.8	2 313	72.4	2 255	70.6	2 178	68.2	2 005	65.4
Takarékszövetkezeti Integráció + outside of integration	618	19.3	629	19.8	667	20.9	707	22.1	750	24.5
Raiffeisen Bank	105	3.3	105	3.3	110	3.4	130	4.1	160	5.2
Erste Bank	65	2.0	65	2.0	65	2.0	64	2.0	72	2.4
K&H Bank	44	1.4	45	1.4	48	1.5	57	1.8	78	2.5
CIB Bank	13	0.4	13	0.4	15	0.5	15	0.5	n.a.	–
Commerzbank	11	0.3	11	0.3	11	0.3	11	0.3	n.a.	–
Takarékbank	5	0.2	5	0.2	5	0.2	5	0.2	6	0.2
UniCredit Bank	4	0.1	4	0.1	4	0.1	4	0.1	n.a.	–
Magyarországi Volksbank	4	0.1	4	0.1	14	0.4	21	0.7	n.a.	–
Budapest Bank	0	0.0	0	0.0	0	0.0	1	0.001	n.a.	–
MKB Bank	0	0.0	0	0.0	0	0.0	1	0.001	n.a.	–
Total	3 194	100.0	3 194	100.0	3 194	100.0	3 194	100.0	3 066*	100.0

* Based on data available for 2010

Source: own collection [based on Napi-online, Világgazdaság (2010 data) and the data of the Hungarian State Treasury]

city and county local governments, which manage an annual budget of at least one billion forints, amounts to around three hundred. It is similar in size to the clientele constituted by large companies in the field of corporate finance. This feature generates sharp *market competition* among the banks that are active in the local government lending market. (Bank & Tőzsde, 2007)

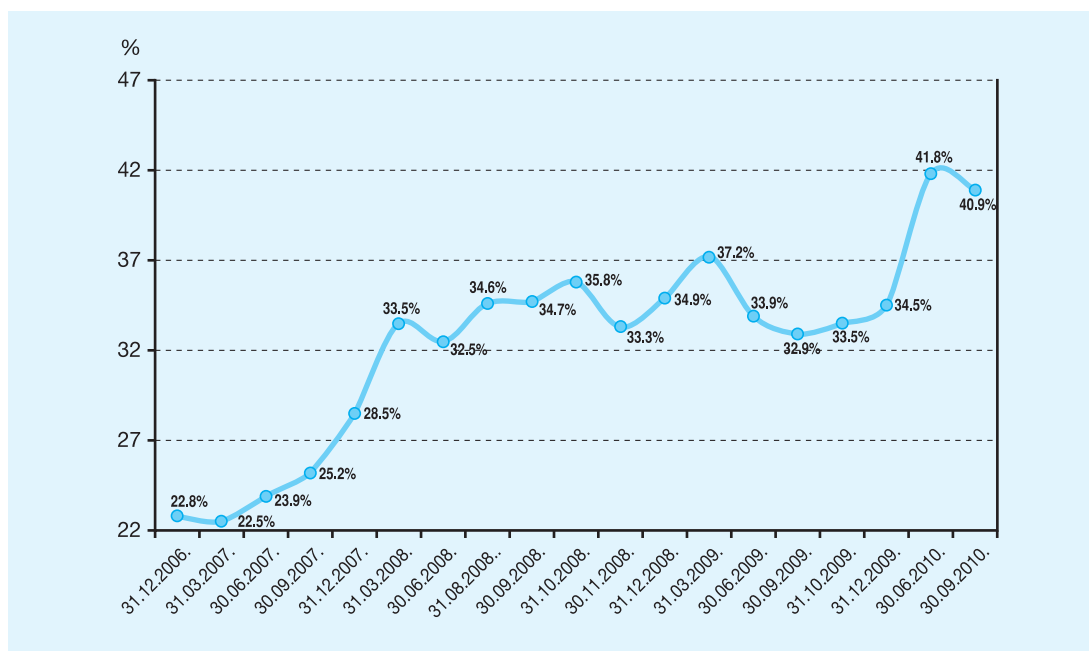
Accordingly, *strong concentration* can be observed on the supply side of the market. In terms of account management, three banks control approximately 95 per cent of the total local government market, while a slow expansion of newly entering players is witnessed. Of the latter, the performance of Magyarországi Volksbank, which quintupled its market share in the period under review, is outstanding. Two new participants, MKB Bank and Budapest Bank, joined the supply side in 2008.

In this segment, *bank exposure* as a percentage of the regulatory capital of the banking sector *increased* by 18.1 percentage points between 31 December 2006 and 31 October 2010 (see *Chart 1*). Based on the data available, the regulatory capital of the banking sector shows a coverage between 32–42 per cent between 2008 and 2010 regarding the financing of the local government sector. The primary reason for the dynamic growth experienced in 2010 was not the large-scale issue of new loans or bonds, but the increase in exposure resulting from the exchange rate change of instruments denominated in foreign currency.

The dynamic growth indicates that banks *have deemed* lending to the local government sector perspective and *safe*. One of the underlying reasons is that local governments cannot be dissolved without succession in a classical sense. Local governments that face payment problems may initiate the launching of a debt

Chart 1

LOCAL GOVERNMENT EXPOSURE AS A PERCENTAGE OF THE REGULATORY CAPITAL OF THE BANKING SECTOR



Source: own editing based on MNB data

settlement procedure against themselves. Not only local governments may exercise this right, but any creditor or supplier can initiate the launching of the debt settlement procedure. Although it is set out in the Act on the Debt Settlement of Local Governments that the state does not discharge the obligations undertaken by the local government, banks still believe that their funds placed out in this sector will not disappear.

As a result of the turbulent effects of the financial crisis, a decline in banks' willingness to lend was observed in all segments in 2009. Restructuring took place on the asset side of banks' balance sheets, which was motivated by the restoration of liquidity as well as by the cleaning of the loan portfolio. Of the household, corporate and local government sectors, the banking sector clearly considered lending to the local government sector the safest.

The Features of Supply Instruments

Based on the experience of the 2000s collected to date, *borrowing* and *issuing bonds* are the two most typical techniques to raise foreign funds in the local government sector.⁵ Lending activity may significantly be influenced by those statutory provisions that must consistently be observed by both market participants. The product range of banks is determined not only by statutory provisions, but also by the "loopholes" (Jókay, 2007) that are suitable for ensuring the financing of local governments in line with the text of the law. Of the available product range, *liquidity loan*, which is not included in the borrowing limit and which creditors typically resort to, has to be mentioned. However, SAO audits found that many local governments used liquidity loans in an irregular manner.

The inclusion of the *bill of exchange* in local government financing has been a recent deve-

lopment. Stemming from the credit instrument and financing facility function of the bill of exchange (Gál, 2009), this financial instrument is also a classical form of raising external funds. The bill of exchange – as a credit instrument – may primarily be an alternative of liquidity loans. However, in addition to lending, stemming from its negotiability, it is also able to function as a means of payment. In spite of its advantages, this product has not yet become a generally applied financial instrument in this sector. In addition to the aforementioned product, the institution of *factoring* has spread increasingly. Another classical product is the *long-term investment loan*. However, it has steadily been ousted by long-term bond issues since 2006. (See Chart 2)

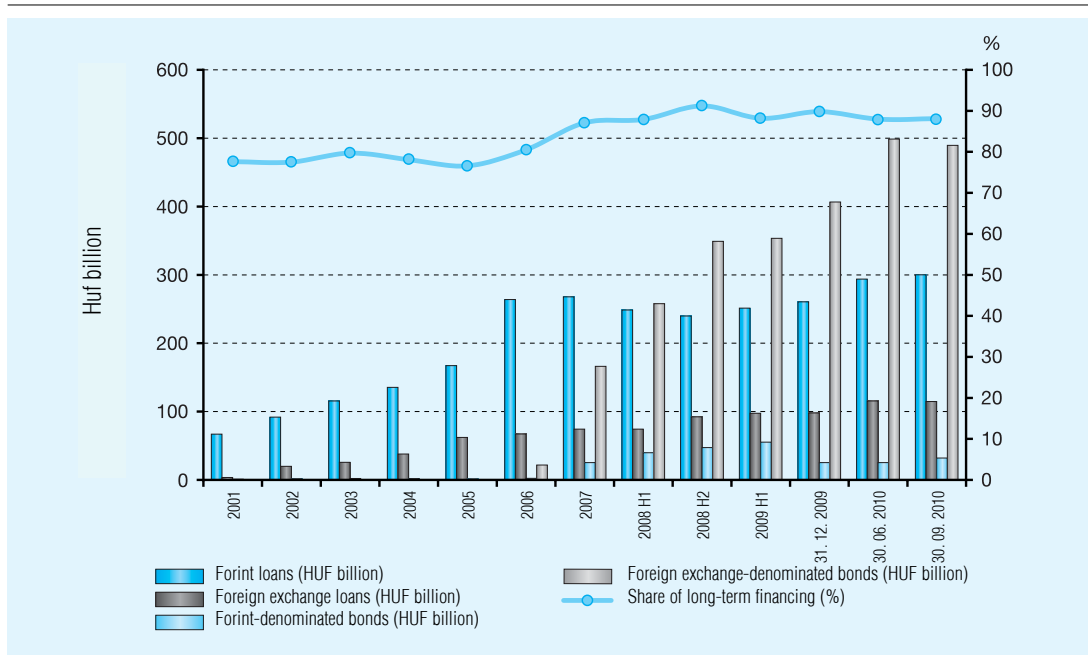
Bond issues, which increased in the second half of 2006, had a dual objective: a part of them made earlier-extended long-term loans convertible, while with another part of them a considerable amount of additional funds was received in the local government system. While 10-year loans had been typical in the long-term financing of local governments, the use of bonds resulted in an extension of maturity to 20–25 years. (Homolya – Szigel, 2008)

This *wave of bond issues* came to a sudden halt in 2009 (Chart 2), i.e. the trend stopped. Nevertheless, according to the stock data accumulated in the financial system, the bond can still be considered as a popular and significant financial instrument. Based on MNB's data, the nominal value of bonds issued until the end of September 2010 amounted to 522 billion forints.⁶ As for ratio, this financial instrument amounts to 55.8 per cent of the total external sources (loans and bonds together).

In addition to the spreading of financing through bonds, the data in Chart 2 also call the attention to the dynamic increase in external funds denominated in foreign currency. In terms of denomination, the share of foreign exchange financing (bonds and loans

Chart 2

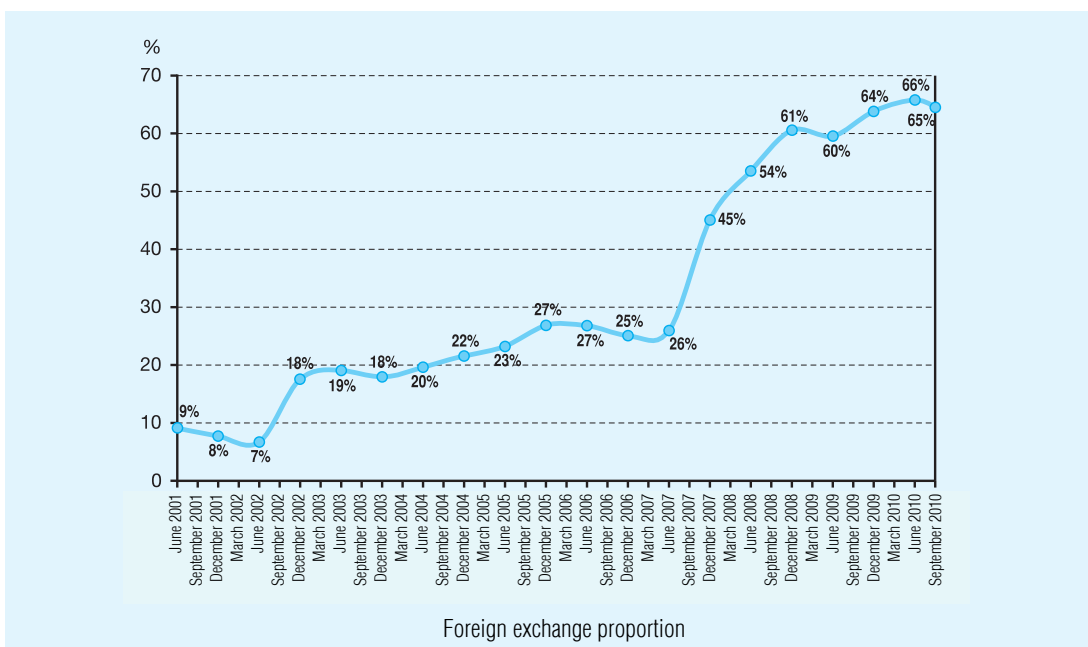
THE COMPOSITION OF EXTERNAL FUNDS INVOLVED IN THE FINANCING OF THE LOCAL GOVERNMENT SECTOR, 2001-2010
KÜLSŐ FORRÁSOK ÖSSZETÉTELE, 2001-2010



Source: own editing based on MNB data

Chart 3

FOREIGN EXCHANGE-BASED FINANCING



Source: own editing based on MNB data

together) within external borrowing amounted to 65 per cent at the end of September 2010. (See Chart 3)

An important issue from the aspect of credit institutions' liquidity is the provision for sources of foreign exchange for the foreign exchange-denominated liability side products. This is an important issue in terms of both asset and liability side liquidity, particularly when the banking sector's loan/deposit ratio is fluctuating around 145 per cent. (Fischer – Homolya, 2009)

Viewing the local government sector as a whole, based on MNB's aggregate data of 30 November 2009, the ratio of *long-term financing* (Chart 2) is 89.7 per cent, representing a 12.1 percentage point increase compared with the corresponding figures of 2001. This picture is further nuanced by the fact that a certain portion of long-term debt finances operating costs and improves liquidity.

The shift in the maturity structure of financing apparently means fleeing forward on the part of local governments. However, in terms of the building up of risks, it should be emphasised that the debt servicing and interest burdens of today's borrowings will have to be managed by future local government budgets. Taking account of all the above, we can call this policy irresponsible behaviour, which takes place in a macroeconomic situation when the sources of loan repayments are scanty and show a declining trend.

Market Rationality and Moral Hazard

The lending decisions of commercial banks that finance local governments are driven by several factors jointly. Of course, the decisions on lending and bond issues (of which they are subscribers to) are preceded by a debtor rating procedure, although the decisions on actual lending are not primarily driven by the findings

of the credit risk propositions. This is partly explained by the information asymmetries that limit transparency in connection with the financial management of the given local government. (Gál, 2010a) These *ex ante* information asymmetries are induced by the information and control system of public accounting. Another important aspect is *account relationship capital*, which represents a serious competitive advantage for the account-holding credit institution during an issuance.

Due to the reasons described above, lending banks continue to deem their placements to this sector low-risk ones. The dynamic increase in the lending to the local government sector was also motivated by the shortage of funds resulting from the financial crisis; with their depositing activity, local governments are excellent partners. In addition, the "matter of prestige" and strategic aspects also play important roles, which is a result of the *strong supply side competition*.

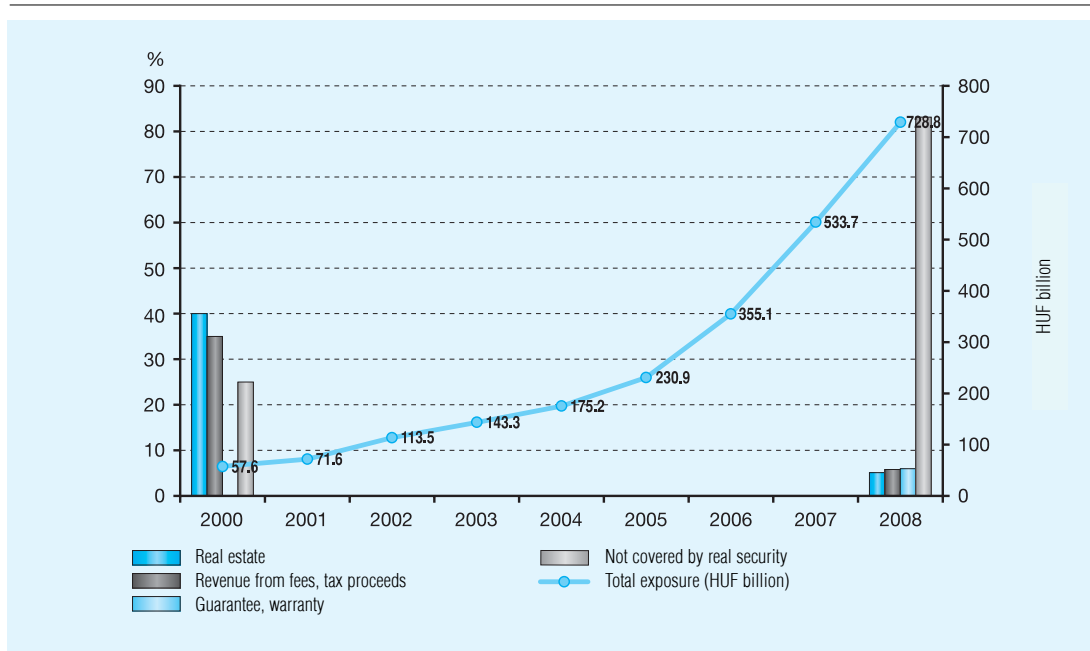
The above listed factors together lead to a building up of risks in the local government lending portfolios. A way of reducing these risks may be the adequate supporting of lending from the collateral side. The developments since 2000 until nowadays reflect that instead of a decline in risks a *build-up of risks* is witnessed on the *collateral side* as well. (See Chart 4)

The survey prepared on the basis of the autumn 2000 data recording of *TÁRKI* (Chart 4) reported that the collateral of loans was mostly real estate and, to a smaller extent, tax proceeds and revenues from fees. (Barati, 2000) However, MNB's survey based on June 2008 data reported that the coverage of loans by real securities in the surveyed banks' local government portfolio amounted to around a mere 17 per cent.⁷ The presence of real estate collateral in the security structure is 6–7 per cent.

The changes took place in parallel with the above described increase in exposure, which entailed the spread of new schemes along with

Chart 4

CHANGES IN REAL SECURITY COVERAGE OF COMMERCIAL BANKS' LOCAL GOVERNMENT EXPOSURE



Source: Barati, 2000; Homolya – Szigel, 2008 and own editing based on MNB data

the loans. All this means that from 2000 to 2007 the banking sector's exposure to local governments became around 12.6 times higher, while the value of exposure not covered by real security increased from 25 per cent to 83 per cent within the total exposure.

The trend reflects the lobbying force of local governments well, and indicates the practice of commercial banks during which they do not primarily approach lending decisions from the collateral or asset sides. These decisions are much more motivated by the willingness and ability to take risks as well as regulatory issues of the operation of local governments. All this represents serious moral hazard with respect to both the creditor and the borrower.

In the case of real estates owned by local governments it is a problem that while the nominal assets cannot be encumbered, the marketable real estates that can be offered as collateral are rather encumbered in this segment.

The number of properties that can be pledged is low, the establishment of their collateral value requires appraisal, the cost of which is borne by the client. The general trend is that local governments are not willing to offer their real estates, and banks do not encourage the opposite either, as they consider the legal procedures that they may encounter upon acquiring the real estates problematic. (Bank & Tőzsde, 2007)

The Act on Local Governments regulates local governments' right to have property in their ownership and the framework of financial management of assets in detail. It is also stipulated here that the objective of local government nominal assets is to ensure the performance of local government tasks. Consequently, these asset elements cannot be sold and cannot be encumbered. Local governments, creditor banks, land title offices and auditors are all responsible for observing and following the

law. During its audits conducted in 2003–2006 in connection with asset management, the SAO concluded that *non-marketable properties* belonging to the nominal assets *were sold and the transactions were registered by land title offices* in the case of as many as 9 local governments, also violating the nullity provisions of the Civil Code regarding the alienation of non-marketable properties. (Kovács, 2008) All this can be considered the *joint moral hazard of all the participants* listed above.⁸

From local government and asset management aspects, the question we have to ask is what purpose the borrowed but not yet spent funds will serve. As depicted in *Chart 5* as well, a significant portion of the funds borrowed remains with the creditor as deposits, providing liquidity on the liability side. If these funds are used with an aim to develop public property, the question is whether the local government will be able to operate the assets and to preserve their condition and substance. This

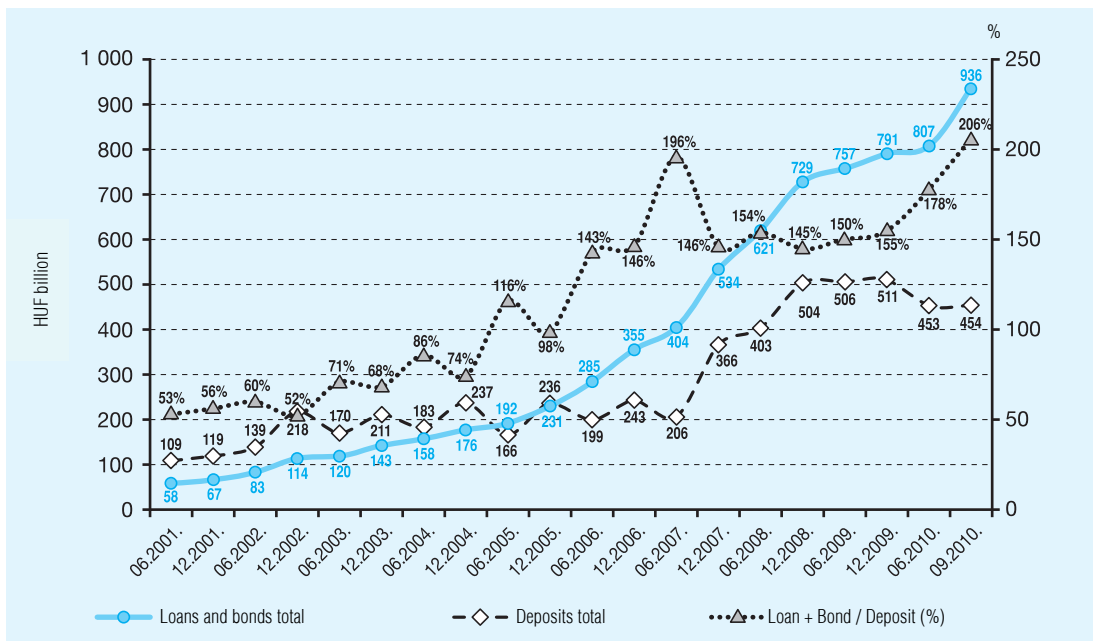
question is especially relevant in the case of monies that can be drawn from the European Union on the basis of grant applications, for which at present the interest-bearing “foreign funds” on local governments’ deposit accounts are still considered to be own resources. Accordingly, the main question here is how the local government system utilises the EU funds. (See *Chart 5*.)

In connection with the analysis of risks, it is worth calling attention to the fact that – from a creditor’s aspect – financing with *bonds issued for a limited scope of buyers*⁹ is riskier than lending. For more details on this subject see Gál (2010a).

In the case of funds that can be obtained through bond issuance and investment loans, there is a significant difference in how they encourage debtors to follow rational economic behaviour. Loan agreements may contain *other conditions (covenants) and contractual clauses* with regard to the debtor, indicating expecta-

Chart 5

CHANGES IN THE LOAN/DEPOSIT POSITION OF THE LOCAL GOVERNMENT SECTOR



Source: own editing based on MNB data

tions and requirements in connection with the debtor's financial management. With the help of the aforementioned clauses, a properly concluded loan agreement that really serves an accumulation purpose, and if the funds for operation are also available, is able to cause local governments to conduct rational financial management and behave in a sensible manner. It is able to tie the hands of the local government over the longer term. Due to its positive impact on the financial management of the local government it moves the pointer of the scales between borrowing and bond issuance in the direction of borrowing. Nevertheless, most of the raising of external funds is achieved through bond issuance.

In September 2008, MNB conducted a questionnaire survey of banks that are active in the local government sector, investigating the purposes for which long-term debt (*credit + bond*) is used in the budgets of local governments. (Homolya – Szigel, 2008) Based on the data supplied by the responding credit institutions, the purpose of 10 per cent of the financing of local governments through bond issuance is operation, while 40 per cent of it is not tied to any specific purpose. This roughly shows that about half of the bond issues serves the funding of operating costs from long-term liabilities, which behaviour cannot be accepted on the basis of any financing logic.

Possibilities and Dynamics of Changes in Interest and Non-Interest Factors

The strong supply side concentration indicates that a serious market competition for seizing clients has evolved, often resulting in *sluggish prices* and *low interest margin* in the local government lending market. (Bank & Tózsde, 2007) However, the crisis experienced nowadays in financial markets and its turbulent effects will presumably affect the interest rate

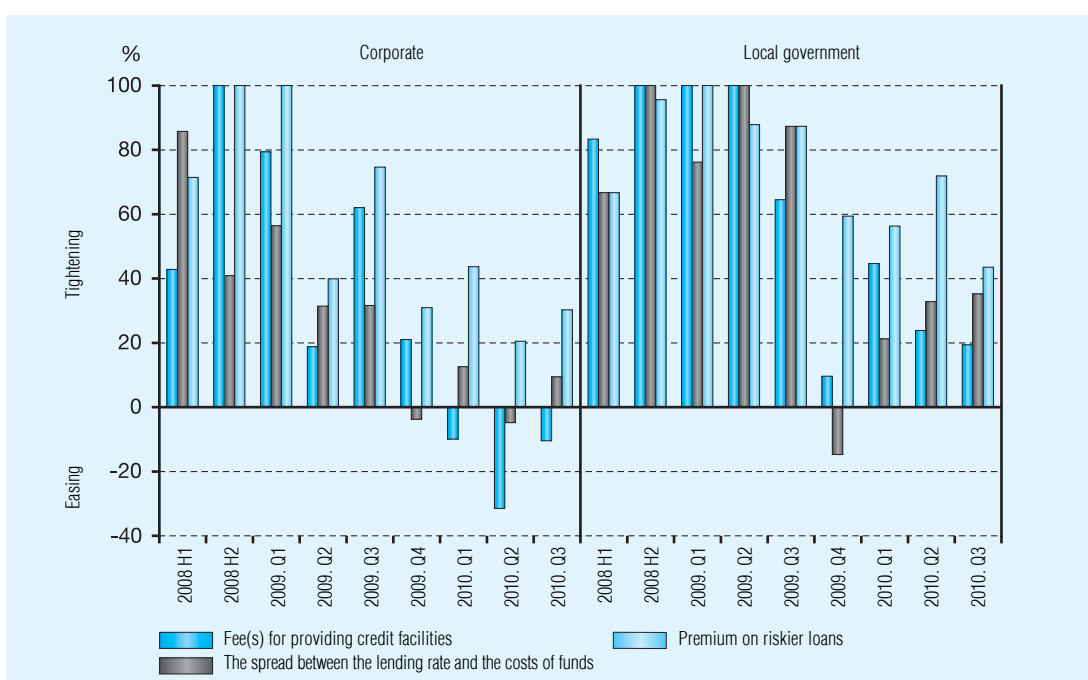
policy of the local government market as well. (MNB, 2009b) In addition, banks' lending policies changed remarkably both in terms of willingness to lend and other conditions. (MNB, 2009a, b)

The *lending survey compiled by MNB*¹⁰ allows the examination of price and non-price factors and carrying out a broad comparison of the local government and corporate clienteles. However, the conclusions that can be drawn in the course of the analysis *carry major uncertainties*.¹¹ Data on local governments are available in the lending survey starting from the second half of 2007; therefore, the data series between the second half of 2007 and the fourth quarter of 2009 can be used for the comparison.

The examination of price and non-price factors can be separated in the course of the analysis. The examination attempts to perceive the differences in the corporate and local government segments upon changing the price and non-price factors. It also intends to establish in which of the two groups of factors (price and non-price factors) can a more dynamic movement be discerned in the local government lending market. Methodologically, the findings of the lending survey always show net changes, within which the net change is expressed in the interrelationship of those who tighten (+) and those who ease (-).

Looking at the extent and dynamics of the changes that took place in *price factors* (see *Chart 6*), several conclusions may be drawn. In regard to the premium on riskier loans, the local government portfolio fundamentally points to tightening in the whole period under review. Easing mainly took place in the case of the spread and other charges. It is worthy of note that in the fourth quarter of 2009 – when easing in the various lending conditions may be perceived for the first time after the effects of the credit crisis – the movement of the risk premium in the local government portfolio is a mere 27 per cent, while in the case of corporate

PRICE FACTORS



Source: own editing based on MNB data

loans, only in this quarter, the risk premium showed a 44 per cent movement. Based on data available from 2010, the figures point to easing in terms of all the three elements under review in the corporate portfolio, but this dynamics is not followed by the local government portfolio. Considering the whole period under review, the volatility of the risk premium is higher and more dynamic in the corporate portfolio than in the local government portfolio.

The analysis of non-price factors suggests that in the local government portfolio – taking the period under review as a basis – *the most dynamic changes* took place in the maximum maturity, in coverage requirements, the debtor’s contractual obligations and in the required minimum level of creditworthiness. Compared to the tightening measures of 2009, considerable easing was experienced in terms of the required minimum level of creditworthiness in the first three quarters of 2010. This

also supports the assertion that commercial banks deem lending to local governments safe.

It can be concluded on the basis of the detailed analysis performed (Gál, 2010a) that – taking account of the uncertainty factors as well – both the interest and non-interest factors of the local government lending portfolio follow the movements observed in the enterprising sector with more careful movements. The *changes* perceived, in turn, cannot primarily be observed *in the factors that are related to the interest premium*.

The commercial banks that are active in lending to local governments expected to be granted more scope for action in terms of changing the interest rates as a result of the new capital regulation to be introduced with the Basel II. However, the rules of the standard capital requirement calculation based on the rating of the sovereign debtor did not allow a reduction of interest rates. (Gál, 2010a) Holding out the

prospect of continuous uncertainties and downgradings that can be perceived in the rating of the sovereign debtor in our days as well induced the maintenance of the capital requirement or even its increasing sometimes.

DEMAND-SIDE FEATURES

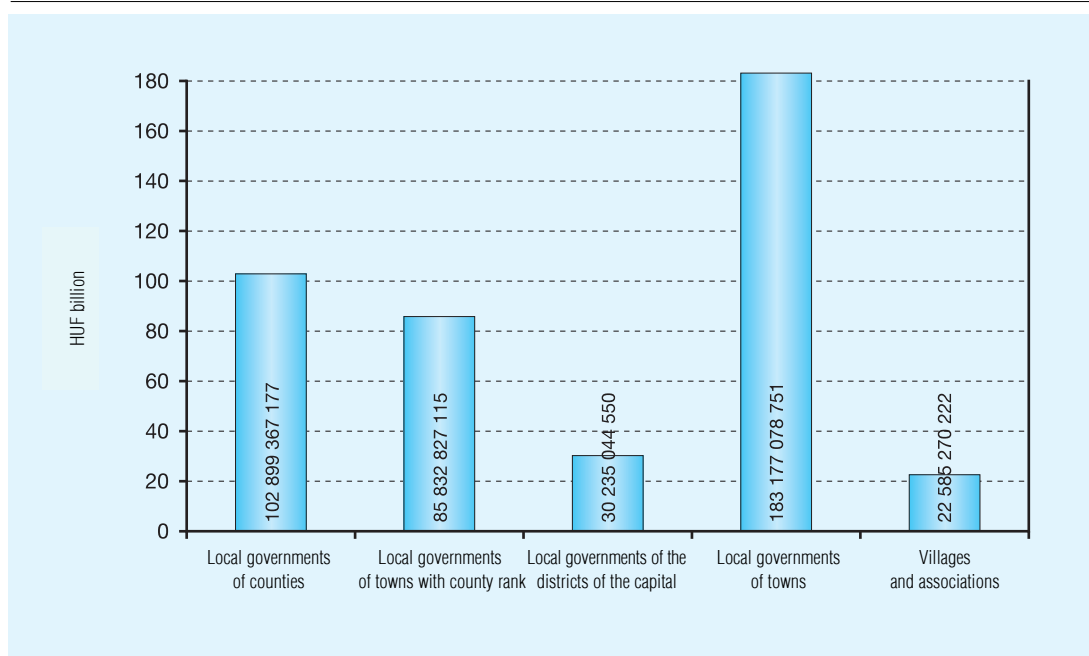
Due to its *fragmented nature*, the system of local governments in Hungary incurs a lot of criticism, although in terms of its concentration it is not unique at all. Of the municipalities, large villages and villages have the greatest number; they amount to 89 per cent of the whole sector. The number of local governments is 2 844 in this group. Towns with county rank, counties, districts of the capital and towns account for the remaining 11 per cent, but the indebtedness of the sector is still attributable to this low number of participants.

It is easy to prove this assertion if we examine the distribution of bond issues among local governments, which resulted in the increase in the sector’s indebtedness in the last 2 years (*see Chart 7*). The increase in issuances and indebtedness is attributable to the towns, towns with county rank and counties. These local governments account for approximately 88 per cent of all bonds, while regarding the whole local government sector it only belongs to 347 local governments.

Accordingly, within the whole local government sector – taking into account other loans as well – the number of creditworthy local governments can be around 350–400. These local governments do not struggle with indebtedness problems, and there is a continuing fierce market competition for winning these local governments. In view of the embeddedness of the sector in the general government, even *these few local governments* are able to *induce risks*

Chart 7

THE DISTRIBUTION OF BONDS AMONG LOCAL GOVERNMENT SEGMENTS (2005–2008)¹²



Source: own editing based on the data of the Hungarian State Treasury

from a macroeconomic aspect. (Homolya – Szigel, 2008; Gál, 2010b)

Similarly to the supply side of the market, concentration is observed on the demand side as well. This is explained by the local government sector, which is determined in terms of the number of local governments, and by the extremely diversified structure of local governments from the aspect of creditworthiness.

Financing Requirement or Fleeing Forward

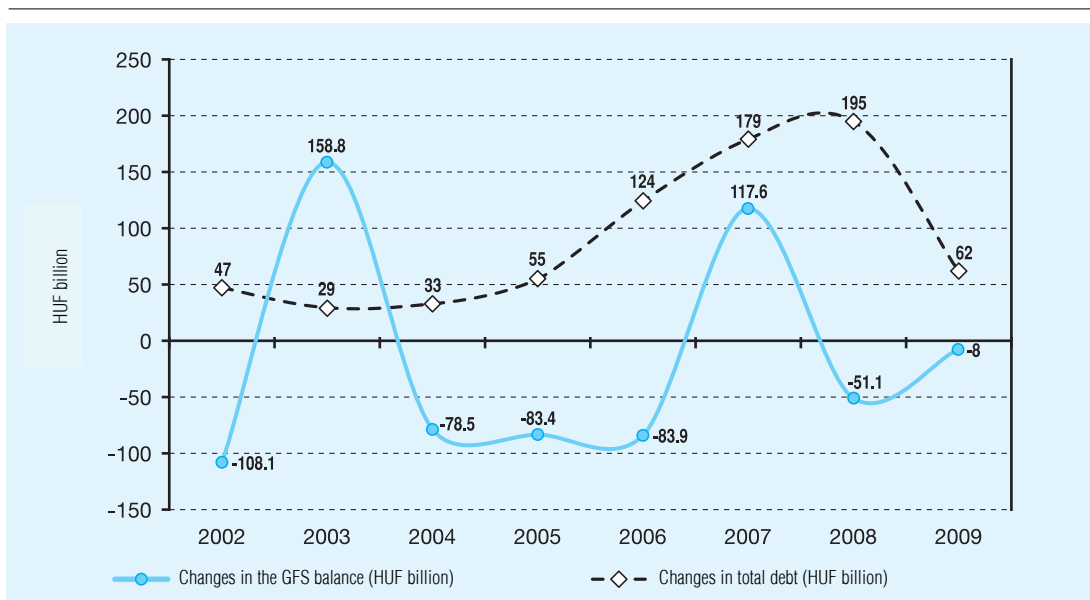
In terms of the financial management of local governments it is extremely important that local governments are unable to finance their operating expenses only from their own revenues.¹³ The creation of the money single fund and the passage between budgets hamper the realisation of a balanced budget and the compliance with the “golden rule” of financing. In

addition to the excessive difficulties in performing the tasks and the decline in the ratio and real value of budgetary subsidies¹⁴, the negative expectations of local governments¹⁵ also affect their ability and intention to raise external funds.

Several research works (Research Institute of the State Audit Office of Hungary, 2008; Bank & Tőzsde, 2007; Gál, 2010a; Homolya – Szigel, 2008; Vígvári 2009) have dealt with the recent indebtedness of local governments in Hungary and with the relevant reasons and consequences. This reflects the importance and weight of the problem. The main reason why the analysis of the subject was placed on the agenda is that while loans in the years before 2007 had served the financing of the budget deficit, there was a drastic change in 2007. Since that year a trend has been observed in the developments in the indebtedness of local governments that is not justified by the direction or magnitude of the change in the GFS deficit. (See Chart 8)

Chart 8

THE GFS BALANCE OF LOCAL GOVERNMENTS AND THE CHANGES IN TOTAL DEBT (2002–2009)



Note: The GFS balance does not include privatisation revenues.
Source: own editing based on the data of the MNB and the Ministry of Finance

The overwhelming majority of the funds flowing into the sector as a result of borrowing and bond issues can be found on the liability side of the balance sheet of credit institutions, in the form of time deposit. These deposits, which may amount to some 200 billion forints (0.8 per cent of GDP), reduce the liquidity risk for both participants. In this manner, local governments can accumulate significant funds of their own for the drawing of EU funds, and their liquidity has also improved, while the creditor’s liability side liquidity is improved by the deposits. All this justifies a more thorough examination of local governments’ deposits.

Local Governments’ Deposits

I think that one of the most interesting issues in connection with the analysis of the financing requirement of the local government sector is

the accumulation of deposits. One may ask if it can be worth for any economic agent to keep its loan extended at a high interest rate in a deposit. Can this transaction result in an interest margin for the client, and if so, what is its magnitude?

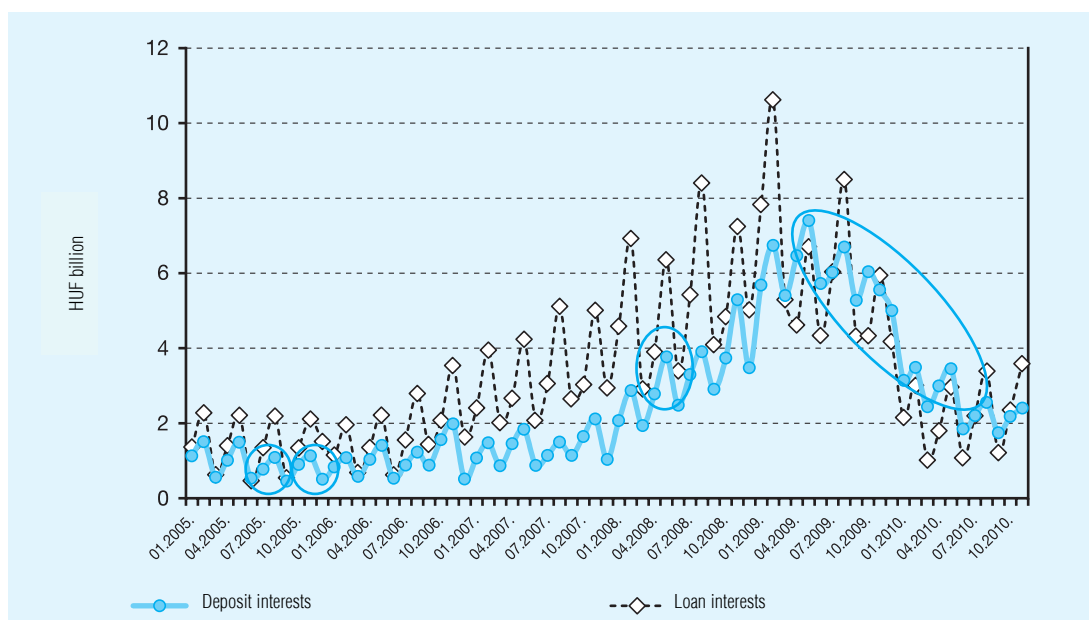
The analysis of this question may be facilitated by MNB’s aggregate statements regarding local governments’ deposits and loans. These statements are based on the analysis of the interests specified and credited in connection with the outstanding loans and deposits of monetary financial institutions. (See Chart 9)

The diagram summarises the credited and debited interests on local governments’ deposits and loans in a monthly breakdown and billions of forints. The chart attempts to find an answer to whether – examining individual months – there can be a situation when the total interest credited for the deposits is higher than the total amount that local governments

Chart 9

THE TOTAL VALUE OF INTERESTS SPECIFIED AND CREDITED IN CONNECTION WITH LOCAL GOVERNMENTS’ DEPOSITS AND LOANS KEPT WITH MONETARY FINANCIAL INSTITUTIONS,

(HUF billion)



Source: own editing based on MNB data

have to pay after the loans. The chart is suitable for drawing several *conclusions*:¹⁶

- ▶ *between 2005 and 2007*, the interests specified for loans and the ones credited to deposits *moved* in the same direction and practically *simultaneously*. The specified amount of loan interests shows that the interest on loans was all the time above the deposit interests with an insignificant spread. However, cyclical movements (experienced monthly or every two months) continuously allowed local governments to perform short-term liquidity management in the case of putting the borrowed funds into time deposits;
- ▶ *between January 2007 and March 2008*, total specified loan interests were always above the credited deposit interests. Thus the spread that evolved was not suitable for carrying out the liquidity management observed in the earlier period. This is the period when the most dynamic growth in local governments' indebtedness is also observed;
- ▶ *in 2008*, an increase took place in the total amount of debited loan interests (presumably together with the interest rate), which was partly motivated by the aforementioned Basel II regulation. This may also justify the increase in March 2009, when the local government regulatory capital¹⁷ reacted to the changes in the rating of the sovereign debtor, together with which the interest rate on loans also increased;
- ▶ *starting from March 2008*, based on the movements of loan and deposit interests, short-term liquidity management became possible for local governments again;
- ▶ *from March 2009 until June 2010*, with minor interruptions, the total value of interests credited on deposits continuously exceeded the total value of interests to be paid after loans. This is partly attribut-

able to the fact that *local governments' bond issuance slowed down* in 2009. This is also a good reflection of banks' liquidity risk reducing strategy as well as of their *asset and liability side adjustment*;

- ▶ *the increase in interest credited on loans from June 2010 on* indicates the increase in the willingness to lend of the credit institutions that finance local governments. Short-term liquidity management was an applicable strategy for local governments in the second half of 2010 as well.

The picture is nuanced by the fact that local governments – in most cases – borrow in euros or Swiss francs and deposit these funds in forints. The exchange loss resulting from the difference between the exchange rate prevailing at the time of the borrowing or bond issuance and at the date of repayment significantly reduces the yields attained on the deposits. Concrete calculations to point out these losses cannot be found in the technical literature yet, but – also taking account of the known exchange rate fluctuations – a considerable adverse effect on the outcome can be expected.

It is important to mention that although placing savings in deposits is at the lowest risk level on the basis of the yield risk (with a lower expected yield compared with other investment possibilities), one important aspect should not be disregarded. For the sake of the safety of deposits and depositors, the Act on Credit Institutions and Financial Enterprises regulates the system and institution of the National Deposit Insurance in detail. However, the National Deposit Insurance Fund of Hungary (NDIF) *excludes local governments from the subjects of deposit insurance*. This is a factor that has to be taken into account among the risks of the local government system in any case.¹⁸ The question arises: What will happen to the deposits of the local government if the account-holding bank goes bankrupt? Will the state become involved with its guarantee?

A concrete example for this question is the case of Jógazda Takarékszövetkezet. The activity of this mutual savings bank was terminated on 4 January 2011. At the same time this is the date of launching the compensation procedure for the depositors insured by the NDIF. In this concrete case altogether 13 local governments lost their deposits amounting to a total 59 million forints. The biggest local government deposit that was frozen amounted to 29 million forints.¹⁹ The depositors that were excluded from the compensation may exercise their right to enforce their claims during the liquidation procedure.

Jógazda Takarékszövetkezet was not a member of the Integration of Savings Co-operatives; therefore, it is not a member of the capital and deposit protection system of OTIVA (National Fund for the Institutional Protection of Savings Co-operatives) either. The system of OTIVA²⁰ excludes the possibility of the suspension of the activity of credit institutions because of capital problems, and thus it excludes the freezing of deposits as well. This fact is an important risk-reducing element in the system.

The accumulated deposits result in tight interdependence between the two market participants. Local governments are present in the market as important providers of liquidity, which makes them a prominent market player in times of scarce liquidity. The stability of financial markets and the solvency of the credit institution system constitute the only collateral of local governments' deposits. At the same time, the deposits ensure a certain percentage of return on the loans and on the bonds issued.

Softening the Rule Based Model and the Budget Constraint

The upper limit of local governments' indebtedness is regulated by Section 88 of the Act on Local Governments, while the rules of opera-

tion of local governments that have become unable to function are set out in the Act on the Debt Settlement of Local Governments. These legal regulations were adopted in order to keep the indebtedness of local governments within strict limits and to make the prevailing body of representatives conduct responsible financial management. These legal regulations represent relevant rules not only for local governments, but also for the credit institutions that are partners in money and capital market relations as well as for the partners that established a supplier's relationship with local governments. All these regulations together aimed at creating a *hard budget constraint* (Kornai et al., 2004a; 2004b).

The functioning and rules of the Act on the Debt Settlement of Local Governments are presented in detail by (Jókay – Osváth – Sóvágó – Szmetana, 2004 and Jókay – Veres-Bocskay, 2009). The legislator's concrete objective with the adoption of the Act was to restore the solvency of local governments by applying this Act. Another objective was to create the conditions necessary for performing the mandatory tasks and to ensure the complete or at least asset-proportionate satisfaction of creditors' claims. In addition, it also aimed at motivating both local governments and their partners to conduct a more prudent market behaviour and to prevent indebtedness. However, from the aspect of the analysis of the local government lending market, *some general conclusions* can be drawn from the procedures conducted to date.

The Act works in a *preventative manner*. It slowed down bad borrowings already by 2000, as the procedure projects the possibility of distribution of assets,²¹ which is always done at the expense of the creditor. The bankruptcy procedures launched after 2000 are mostly explained by criminal cases. The researches that examined the bankruptcies concluded that the law *is not observed*, in spite of its pre-

ventive nature. The low number of bankruptcies is attributable to the fact that creditors and suppliers enter into agreements or grant a respite in the last minute. Following the closure of the debt settlement procedure the local government can continue to develop and borrow. However, the number of inhabitants of the settlements where local governments have gone bankrupt to date is below 3000. Therefore, as a result of their financial characteristics, their resource gap will remain for a long time.

It is observed that – with the exception of the experience of one case (Nemesgulács) – suppliers and creditors do not initiate the launching of a debt settlement procedure. “Presumably, the underlying reason is that in the beginning they trust that the central budget will settle the debt instead of the given local government...” (Jókay – Veres-Bocskay, 2009, p. 115). Then, after learning about the content of the law and realising that only a fraction of their claim may be recovered, they wait to the very last.

It can also be established that local governments also request the launching of the procedure against themselves in the very last moment, because by the procedure they exclude themselves from various opportunities to receive funding. Very often, only the crisis budget makes the local governments subjected to the procedure realise that “bearing community burdens does not mean that the local government performs, organises and also completely finances certain tasks. The purpose of local taxes is to contribute to the costs of the performance of tasks.” (Jókay – Veres-Bocskay, 2009, p. 117)

Most often the bankruptcies were the result of illegal, unlawful operation. One of the general features of the bankrupted local governments was that they struggled with organisational operational deficiencies. It was found in several cases that internal audit and competent

economic experts were missing. Researches came to the conclusion in the case of several bankruptcies that the SAO had already examined the settlement concerned, and in its audit it had pointed out the shortcomings that had been expected to result in financial difficulties later. Shortcomings in the information system of the general government were also found. The accounting on a cash basis allowed the non-payment of certain invoices for more than 60, 120 days or even for several years.

In view of the developments in the debts accumulated in the local government sector, it is becoming an interesting question whether *in the coming years* we will witness *transformations and mergers* that are already considered to be accepted and regulated practice in the enterprising sector.

Overall, the law provides an adequate framework for conducting the debt settlement procedure. However, non-compliance with the law does not entail sanctions. The application of the debt settlement procedure may primarily be suitable for managing the problems related to creditors. In approximately half of the procedures conducted to date, the enforceable distraint or collection of debt based on suppliers’ overdue invoices convinced the given local government to initiate a debt settlement procedure against itself. The procedure is only launched when they cannot even finance the basic task.

To sum it up, the budget constraint of local governments has steadily softened in recent years. All market players have participated in and caused this process. By creating subsidies for local governments with financial problems through no fault of their own and funds to be disbursed by the minister that serve a similar purpose, the central budget included an especially important funding element in the financing system. The continuous overfulfilment of this appropriation also indicates that – contrary to the original objective – local governments already take into account these two funds when

planning their respective budgets. Moreover, the questionnaire survey conducted by the Research Institute of the State Audit Office of Hungary in the summer of 2008 points out that due to the aforementioned reasons the subsidies for local governments with financial problems through no fault of their own do not adequately aim at the local authorities that are really in need. The subsidies for local governments with financial problems through no fault of their own and the “funds to be disbursed by the minister” are considered as planned revenues by many local governments already upon planning the budget. (Lóránt, 2009)

SUMMARY AND CONCLUSIONS

In the Hungarian local government lending market, the regulation of local governments’ indebtedness warrants the supplementing of the models drawn up in the international literature. This assertion of mine is supported by the interconnections explored and lessons drawn during the detailed – demand and supply based – analysis of the domestic market. It can be stated that the regulation of the indebtedness of the Hungarian local government lending market can be described by the *model of “risk-taking based competition”*.

Borrowing by and indebtedness of Hungarian local governments are limited by legal regulations, but there are no sanctions of violating these regulations. Consequently, there is no legal way to enforce their observance. Therefore, the regulation of indebtedness does not match the rule based model.

The essence of the market regulated model – that for the players of the subnational level the raising of external funds is determined by money and capital market developments and

mechanisms – examining the domestic market by itself, cannot be substantiated. The underlying reason is that market participants trust the implicit government guarantee; at the same time, the decisions of the supply side actors are determined by their ability and willingness to take risks. The success of the market regulated model is also hindered by the fact that market participants are not perfectly informed. The moral hazards explored during my empirical researches, the deficiencies experienced in the information and control system, the considerable lobbying force of the demand side and the concentrated nature of the supply side all confirm the disfunctionality of the market regulated model.

The features of the model of “risk-taking based competition” are summarised below:

- ① both sides of the market are strongly concentrated;
- ② looking at the demand side stakeholders, the number of local governments that are considered to be large borrowers is low;
- ③ the information available for supply side stakeholders and their decisions are distorted by ex ante information asymmetries;
- ④ the features of money and capital market instruments are affected by moral hazard;
- ⑤ the regulation of indebtedness is solved by legal regulations, but compliance with the rules cannot be enforced;
- ⑥ the behaviour of market players is not rational;
- ⑦ the budget constraint of market players is soft;
- ⑧ the liquidity of instruments issued by demand side stakeholders to financial markets is limited. There is no secondary market of the bonds issued;
- ⑨ lending decisions are motivated by commercial banks’ willingness to take risks.

NOTES

- ¹ I would like to thank András Vígvári for the birth of this study and for supporting its publication.
- ² These are summarised by Kapás (2003).
- ³ In the US system, which is close to that of the free market, local government bond yields enjoy favourable interest, but in the case of financial difficulties the bankruptcy regulations that apply to business organisations prevail. For more details see Kopányi – Vígvári, (2003a)
- ⁴ The public procurement obligation in using financial services is bound to a value limit of eight million forints. Below this threshold, transactions can be effected without applying a public procurement procedure; smaller local governments belong to this value limit.
- ⁵ The work by Kovács, G. (2009) discusses the questions of economies of scale of local government bonds in detail.
- ⁶ Considering that most of the issuances were denominated in foreign currency, the value is affected by the exchange rate fluctuations.
- ⁷ The banks interviewed by MNB cover nearly 94 per cent of the portfolio of banks that are active in the total lending to local governments.
- ⁸ In the case of creditor banks, capital requirement reduction, with the so-called Credit Risk Mitigation (CRM) techniques, may primarily be in the background. Hypothecary securities also belong to here.
- ⁹ The study uses the concept of bonds where return is provided from the proceeds and which does not contain any other options.
- ¹⁰ The lending survey is prepared by the Financial Stability organisational unit of MNB. In the initial period of the surveys, from 2003 until January 2009, the analyses were prepared biannually, before switching to quarterly frequency in January 2009. The lending survey, which is carried out in the housing, consumption, corporate, business and local government segments as well, examines the supply behaviour of banks. In all cases, the survey indicates movements on a relative scale. The survey focuses on whether there has been any change in the quarter under review compared to the previous quarter, and also looks ahead. The survey examines qualitative information that is rapidly available, but difficult to quantify. The types of questions examined include the amount of loan intended to be lent (willingness to lend), lending standards and conditions, the developments in the demand for loans as well as the changes in portfolio quality. 15 banks and 6 leasing firms have been involved in the survey. They represent a 90–97 per cent coverage of the total supply sector, depending on the segment examined.
- ¹¹ *a)* Stemming from the nature of the questioning one cannot be sure to what extent the answers reflect the facts.
b) The corporate portfolio is rather complex. I highlighted the data of the segment of non-financial corporations during the analysis. The analysis does not cover the small and micro enterprises. (As the greatest debtors of the local government sector are also the larger local governments, for the comparison I focused on the large companies on the corporate side as well. Since 2009, MNB's lending surveys have presented the data on large companies and non-financial corporations in an aggregate manner.)
- ¹² The data were published by Lóránt (2009).
- ¹³ This is what local governments' financial architecture describes. (Györffi – Vígvári – Zsugyel, 2009)
- ¹⁴ In addition to the decline in the real value of subsidies, their becoming increasingly fragmented is also part of this problem. The frequent changes in the rules of sharing own-right and assigned revenues (e.g. change in the rules of sharing the personal income tax), which practically make the planning of the budgets of local governments impossible and make the provision of public services at an unchanged level uncertain, also belong here.
- ¹⁵ The Ministry of Finance prepared a proposal for the amendment of the law regarding local governments in November 2007. It would change the prevailing borrowing limit, but it would have required a two thirds majority of the National Assembly.
- ¹⁶ Naturally, the conclusions are to be understood at the level of all local governments together. The

behaviour of individual local governments may be different from it.

¹⁷ It was discussed in detail on the supply side.

¹⁸ Not only the National Deposit Insurance Fund, but the Investor Protection Fund also excludes local governments from its subjects.

¹⁹ For further details see the NDIF website.

²⁰ For details see the OTIVA website.

²¹ Analysing the already closed cases, creditors have been able to collect only a low portion of the principal and nothing of the interest at all. It is typical of the distribution of assets that the creditor receives zero per cent of the arrears of interest and 1–10 per cent of the principal sum in cash.

LITERATURE

BARATI, I. (2000): *Jelentés. Önkormányzati várakozások 2001-re*, TÁRKI Önkormányzati adatbank [Report, Local government expectations for 2001, TÁRKI Local government data bank]

BARATI, I. (2002): A helyi kormányzatok hitelpiaci részvételének ösztönzése [Motivating local governments' credit market participation], *Magyar Közigazgatás*, Vol. 52, Issue 10, pp. 593–599

BREALEY – MYERS (1998): *Modern vállalati pénzügyek [Principles of Corporate Finance], I–II*, Panem-McGraw-Hill

DOUGLAS, W. D. (1984): Financial Intermediation and Delegated Monitoring. *Review of Economic Studies*, Volume 51, pp. 393 – 414

FAMA, E. F. (1970): Efficient Capital Markets: a Review of Theory and Empirical Work. *Journal of Finance*, 25. pp. 383–417

FISCHER, É. – HOMOLYA, D. (2009): Viharba kerülve esőkabátban – avagy a hazai bankszektor forrás oldali likviditási kockázatai és az azokat mérséklő tényezők 2008 második felében [Facing a storm in a raincoat – or the domestic banking sector's funding liquidity risks and the risk mitigation factors in the second half of 2008]. *Hitelintézési szemle* Vol. VIII, Issue 3

GÁL, E. (2009): Bankok, bankügyletek [Banks, banking transactions]. *Egyetemi jegyzet (lecture notes), Miskolci Egyetem kiadó*

GÁL, E. (2010A): Az önkormányzatok adós- és követelésminősítésének elméleti és gyakorlati problémái [Theoretical and practical problems of debtor and claim ratings of local governments]. *PhD thesis*, Miskolc

GÁL, E. (2010B): Divatos téma vagy valódi kockázat: a helyi önkormányzati szektor eladósodása [Fashionable topic or real risk: indebtedness of the local government sector]. *Comitatus Önkormányzati szemle, A Megyei Önkormányzatok Országos Szövetségének folyóirata [periodical of the National Association of County General Assemblies], March, Vol. XX, Issue 188, pp. 34– 42*

GYÖRFFI, D. – VIGVÁRI, A. – ZSUGYEL, J. (ED.) (2009): *A közpénzügyek nagy kézikönyve [The great handbook of public finances]*, Complex Kft.

HERBST, Á. – SZEGVÁRI, P. (1996): Adósságrendezés az önkormányzatoknál [Debt settlement at local governments]. *Századvég*, Budapest

HOMOLYA, D. – SZIGEL, G. (2008): Önkormányzati hitelezés – kockázatok és banki viselkedés. [Lending to local governments: Risks and behaviour of Hungarian banks.] *MNB - Szemle [MNB – Bulletin]*, September, pp. 20–29

JÓKAY, K. – OSVÁTH, L. – SÓVÁGÓ, GY. – SZMETANA, GY. (2004): *Az önkormányzati adósságrendezések oknyomozása 1996–2003 [Pragmatism of the debt settlement of local governments]*, Ige Kft. Budapest, www.ige.hu

JÓKAY, K. (2007): Az önkormányzatok mérlegen kívüli „rejtett” illetve számított kötelezettségvállalásai empirikus kutatásai [Empirical research of local governments' off-balance sheet “hidden” and calculated commitments]. *Vitairat [Polemic]: 6 October 2007*

JÓKAY, K. – VERES-BOCSKAY, K. (2009): Egy igazi hungarikum: az önkormányzati adósságrendezési eljárás. [Only in Hungary: experiences with municipal debt adjustment and suggested regulatory changes.] *Pénzügyi Szemle [Public Finance Quarterly]*, First Issue, Vol LIV, pp. 111–125

- KAPÁS, J. (2003): A piac, mint intézmény – szélesebb perspektívában. [The market as an institution – in a broader perspective.] *Közgazdasági Szemle [Economic Review]*, Year L, December, pp. 1076–1094
- KIRÁLY, J. (1995): Válságspirál, avagy a magyar bankok tőkevesztésének egy lehetséges értelmezése [Crisis spiral, or: a possible interpretation of the loss of capital of the Hungarian banks]. *Közgazdasági szemle [Economic Review]*, Year XLII, Issue 9, pp. 819–837
- KOMÁROMI, GY. (2002): A hatékony piacok elméletének elméleti és gyakorlati relevanciája [The theoretical and practical relevance of the theory of efficient markets]. *Közgazdasági Szemle [Economic Review]*, Year XLIX, May, pp. 377–395
- KOPÁNYI, M. – VIGVÁRI, A. (2003): *Az önkormányzati szektor pénz és tőkepiaci kapcsolatának szabályozási szükségessége és lehetősége [The need and possibility of regulating the money and capital market relations of the local government sector]*. Manuscript
- KORNAI, J. – MASKIN, E. – GERARD, R. (2004A): Puha költségvetési korlát I. [The soft budget constraint I] *Közgazdasági Szemle [Economic Review]*, Year LI, July–August, pp. 608–624
- KORNAI, J. – MASKIN, E. – GERARD, R. (2004B): Puha költségvetési korlát II. [The soft budget constraint II]. *Közgazdasági Szemle [Economic Review]*, Year LI, September, pp. 777–809
- KOVÁCS, Á. (2008): Az önkormányzati rendszer működése – a pénzügyi ellenőr olvasata [The operation of the local government system – the financial auditor’s interpretations]. *Presentation at the international conference “Financial management of local governments – local development”*, Pécs, 16 May
- KOVÁCS, G. (2009): Önkormányzati kötvénykibocsátások: elmélet és gyakorlat [Bond issues by local governments: theory and practice]. Manuscript, before publication
- LÓRÁNT, Z. (2009): A gazdasági válság hatása az államháztartásra, különös tekintettel az önkormányzatokra [The effect of the economic crisis on public finances, with special regard to local governments]. *Presentation at the scientific conference of the Budapest Business School on the Day of Science*, Budapest, 13 November
- TER – MINASSIAN, T. – CRAIG, J. (1997): Control of subnational government borrowing in Fiscal Federalism in Theory and Practice (Chapter 7.) *IMF*
- VIGVÁRI, A. (2009): Pénzügyi kockázatok az önkormányzati rendszerben [Financial risks in the local government system]. *Research Institute of the State Audit Office of Hungary – study*, January
- BANK & TŐZSDE (2007): Bankok és Önkormányzatok melléklet [Banks and Local Governments Annex]. In: Bank & Tőzsde 27 November 2007
- Legal regulations*
- Act CXII of 1996 on Credit Institutions and Financial Enterprises
- Government Decree 196/2007. (VII. 30.) on Credit Risk Management and Capital Requirement for Credit Risk
- Act XXV of 1996 on the Debt Settlement of Local Governments
- Act LXV of 1990 on Local Governments
- Sources on the Internet*
- www.asz.hu: Research Institute of the State Audit Office of Hungary (2008): Analysis of the macroeconomic risks of the 2009 budget. November 2008. Study
- www.mnb.hu: MNB (2009a): Report on Financial Stability, April 2009
- www.mnb.hu: MNB (2009b): Senior Loan Officer Survey on Bank Lending Practices (March 2009)
- www.mnb.hu: MNB (2010): Senior Loan Officer Survey on Bank Lending Practices (February 2010)
- www.oba.hu
- www.otiva.hu