THE CURRENT AND FUTURE PERSPECTIVES OF INDEBTEDNESS OF THE MUNICIPALITIES

Ágnes Csiszárik-Kocsir Dr., Ph.D.
Óbuda University, Keleti Károly Faculty of Business and Management
H-1084 Budapest, Tavaszmező u. 15.-17.
kocsir.agnes@kgk.uni-obuda.hu

Mónika Fodor Dr., Ph.D.
Budapest Business School, Faculty of International Management and Business
H-1165 Budapest, Dióssy L. u. 22.-24.
fodor.monika@kkfk.bgf.hu

András Medve Dr. Csc.
Óbuda University, Keleti Károly Faculty of Business and Management
H-1084 Budapest, Tavaszmező u. 15.-17.
medve@uni-obuda.hu

─**Abstract**─

The economic and financial crisis had a deep impact on all countries of the world, among them, Hungary, which was hit harder than expected, as is reflected by the budget plans of 2009. The soaring unemployment rate, recession at a record high, and the lack of revenues had a shocking effect on the government, leading the Hungarian state indebtedness from around 50% in the first decade of the 2000's to over 80% in 2010, approaching the disastrous level of 90% (Reinhart –Rogoff, 2010), in which municipalities have had an increasing share. The aim of this study is to present the background of the indebtedness of municipalities at the peak of the crisis; our objective is to reflect upon its causes, which were proven right by the national data in 2010. Furthermore, we would also like to demonstrate the composition of municipalities possessing external sources and those wanting to draw in external sources in the light of a nation-wide study.
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JEL Classification: H74

1. INTRODUCTION

The Hungarian local governmental system is a very frittered system. In Hungary we have more than 3150 municipalities, in which there are two levels, the settlement's and the county's level. The municipalities have a lot of tasks from which there are mandatory and voluntary tasks too, the responsibilities of the local governments see in the below table:

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**Table-1:**   **The voluntary and mandatory tasks of the municipalities in Hungary**

	All LG	Cities	Counties
I. EDUCATION			
- Pre-school (Kindergarten)	M	M	
- Primary	M	M	
- Secondary		V	M
- Technical		V	M
- Schools for Handicapped		V	M
II. SOCIAL CARE			
- Nurseries	V	V	
- Personal Services for Elderly People	M	M	
- Welfare Homes for Elderly People	M	M	
- Welfare Homes for Handicapped People		V	M
- Special Social Services (e.g. homeless)		V	
- Social Housing		V	
III. HEALTH CARE			
- Primary Health Care	M	M	
- Hospitals		V	M
IV. CULTURE, LEISURE, SPORTS			
- Libraries	V	V	M
- Cultural Centres	V	V	M
- Theatres	V	V	M
- Museums	V	V	M
- Parks	V	V	
- Leisure, sports	V	V	
V. PUBLIC UTILITIES			
- Supply of Drinking Water	M	M	
- Sewage	M	M	
- Central Heating		V	
VI. ENVIRONMENT, PUBLIC SANITATION			
- Cemeteries	M	M	
- Refuse Collection	M	M	
- Refuse Disposal	M	M	
- Environment Protection	V	V	
- Street Cleaning	V	V	
VII. TRANSPORT, TRAFFIC			
- Road maintenance	M	M	
- Public Lighting	M	M	
- Public Transport		V	
VIII. URBAN DEVELOPMENT			
- Mater Plans (Structural Plans)	V	M	
- Local Economic Development (inc. Tourism)	V	V	
- Spatial Planning			M
IX. GENERAL ADMINISTRATION			
- Protection of the Rights of Ethnic Minorities	M	M	
- Authoritative Functions (e.g. licenses)	V	V	
- Fire Brigades	V	V	
- Civil Defence	V	V	

Source: Lados (2008)

The local governments have two opportunities to drawing external sources: taking bank loans or issuing bonds. Most of the municipalities prefer a bank loan in case of the simplicity, instead of issuing bonds, which needs a bigger expertise (Csiszárik-Kocsir, 2008).

The indebtedness of Hungarian municipalities grew rapidly in the examined period. The Hungarian local municipalities are responsible for such important strategic tasks, only to name the most important ones, as elementary education, basic health care, sweet water supply, the normative subsidies of which have been decreasing at their real value. The only way to raise the insufficient funds, apart from levying local taxes, is to draw in external sources. However, the indebtedness of municipalities did not only increase in absolute terms, but also as a percentage of the Hungarian national debt. The indebtedness of municipalities is demonstrated in Figure 1.

Figure-1:   The local governments' debt (in billion HUF) and in the percentage of the total public debt
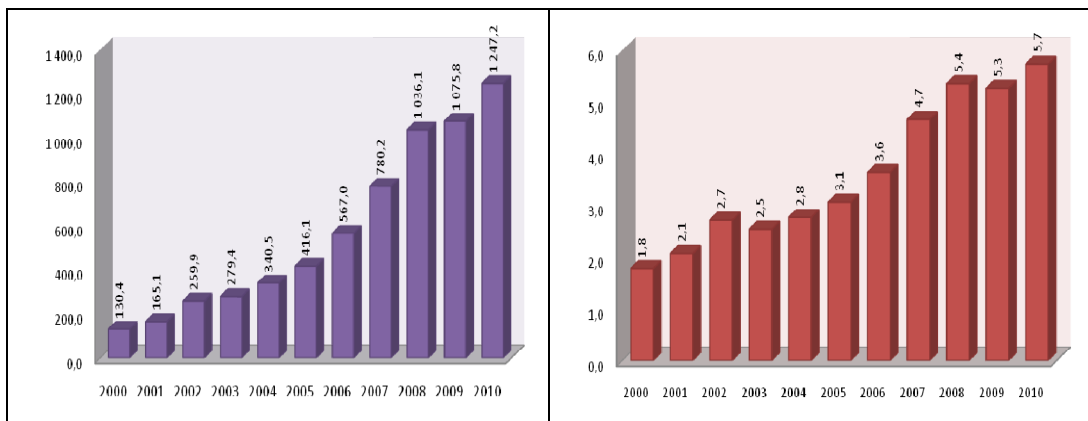
Source: Hungarian Central Bank, 2011, author's compilation

We can get much clear picture about the municipalities' indebtedness, if we see its debt in the percentage of the GDP in the Figure 2. It can be stated, that the percentage of the LG's debt increased very high in the last few years.

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Figure-2: **The local and central governments' debt in the percentage of the GDP**
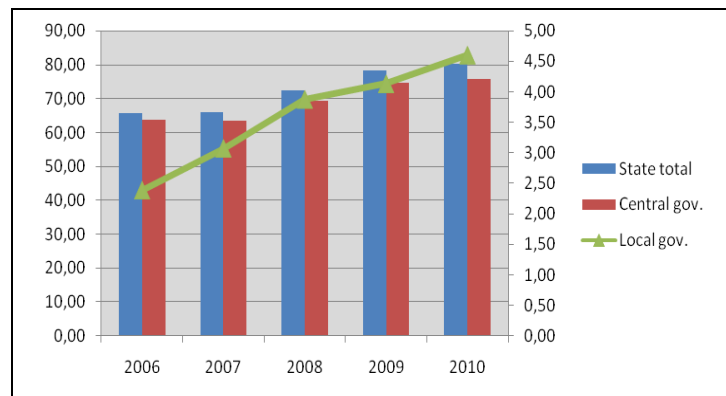
Source: Hungarian Statistical Office, 2007 and 2011, author's compilation

2. THE RESULTS AND THE BACKGROUND OF THE RESEARCH

2.1.The background of the research

Our quantitative research was based on the nationwide survey which we carried out in the spring of 2009. We edited a pre-tested and standardised questionnaire and distributed it. Because of the diversification of the sample the questionnaire does not include any open questions, which the respondent can answer with their own words. Therefore, the questionnaire exclusively consists of closed questions, which means that the respondents' task is only to select the best answers already provided for them by the researcher, which makes it simpler to evaluate the answers. We used this questionnaire to analyse and present the local aspect of educational services, thus the "results", partly the results of the research reflect upon the opinions of the local authorities. In these views there are several subjective elements, due to which there may be some contradictions between the central and local educational policies and financing.

The respondents of the questionnaire were guaranteed complete anonymity in order to make sure their sincerity and willingness to answer the questions. The respondents were only asked to provide the following information about themselves: legal status (villages, towns and towns with country rights), and the number of population, as these are indispensable for the analysis. During the sampling of the research we applied the method of quota based conscious sampling, which means intended selection, however, the sample still reflects the division and representativity of the basic majority. The main characteristic of quota-based sampling is that the questioner has to maintain a quota based on 2-3 issues. In our case these two characteristics are the legal status of the settlement

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and the number of population. These two characteristics are apparently available in relation to basic majority. We regarded the local governments of 3150 settlements as basic majority, therefore the research is intended for 315 local governments. When deciding on the sample we wanted to provide a representativity based on legal status and the number of population. We did not plan to involve any municipalities or the local governments of districts, because these figures would have distorted the results due to the great number of their institutions. During the analysis we did not regard those settlements in the basic majority as relevant whose population does not reach 500 as such villages usually do not maintain schools, therefore the sample only contains local governments of settlements with more than 500 residents. The composition of the sample is shown in Table 2:

**Table-2:**   **The composition of sample and the basic majority**

Population between	Villages				Towns				Cities with country rights			
	Basic majority		Composition of sample		Basic majority		Composition of sample		Basic majority		Composition of sample	
	Num-ber	%	Num-ber	%	Num-ber	%	Num-ber	%	Num-ber	%	Num-ber	%
501-1000	680	37,14	69	35,38	-	-	-	-	-	-	-	-
1001-5000	1103	60,24	119	61,03	55	20,07	11	19,64	-	-	-	-
5001-10000	46	2,51	6	3,08	101	36,86	22	39,29	-	-	-	-
10000-150000	2	0,11	1	0,51	50	18,25	11	19,64	-	-	-	-
15000 above	-	-	-	-	68	24,82	12	21,43	23	100	5	100
Total:	1831	100	195	100	274	100	56	100	23	100	5	100

Source: own research in 2009

2.2. Results

In our times news coverage's report more and more often on alarming indebtedness and debt stocks of economic institutions, the process of which has been slightly hindered by the 2008 financial crisis. The municipalities did not remain intact or unconcerned, either. Having operational and financial difficulties, the municipalities are forced in greater proportion to borrow loans and issue bonds in order to cover their expenses. Within all loans there is significantly greater proportion of operating loans having various risks. The most important is that the loans used for just operating do not produce any payback margin, as opposed to the debt proportion spent on investment and this may project future threat of further indebtedness. One of the main goals of our research was to survey the indebtedness of municipalities and the future tendencies of it, as one of the sources of, – still a minor proportion of – operating and education financing. The indebtedness of municipalities of the sample is demonstrated in Figure 3.

Figure-3: **The distribution of municipalities having debts, whole sample, also segmented by legal status and number of inhabitants (in %)**
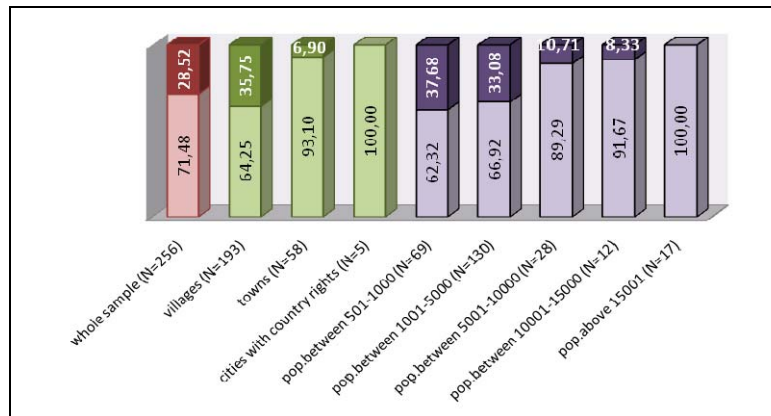
Source: Source: own research in 2009, (light colours = having debts, dark colours = without any debts, level of measure: nominal)

It can be stated that in our times an increasing proportion of municipalities have to make use of external resources in order to cover their day-to-day operation and existence.71 % of the municipalities of the sample have already used some sort of external source and most of these sources are bank loans. As segmented by legal status, the sample demonstrates that the villages have the smallest proportion of all loans. One of the reasons might be that some of these villages do not meet the stipulated lending criteria so these settlements can hardly get any loans and if these villages ever get loans, they get it only with unfavourable conditions. Also, these municipalities do not possess stable and sufficient sources of revenues that would secure and cover their loan repayment. Therefore, their intention of borrowing is also limited. As of all towns and cities, the proportion of towns having municipal debts almost reaches 100% (93%), whilst there are no towns with county rights not having any kind of external source. It can be stated that most part of the debts of the settlements in the sample is embodied in bank loans (85%). By our time, of all bank loans taken into consideration, a great proportion of operating debts has been accumulated, reaching almost as much as 30%. The method of involving external sources by issuing bonds by the municipalities of the sample is not yet widely spread, it is accounted for only a mere 15% of all debts, and this source is mainly used for investments.

Based on these facts it can be stated that indebtedness and population size shows a strong positive correlation. The bigger the municipality with more and more inhabitants and enterprises, the more growing is both its local base for taxation and also its credit worthiness alongside with its "wish" for taking loans. So the above mentioned statements

do not prove the generalization that the villages are the most indebted of all. However, it is a fact that the villages forced to borrowing operating loans, due to their insufficient revenue capacities, have to face greater risks when it comes to repayment, in comparison with larger settlements with more liquid financial capacities. It is the villages and other smaller settlements that have the larger proportion of external sources designated for operating purposes and this fact from the very beginning "entails" their future difficulties in financing. Additional characteristics of the municipalities is their strong dependence on banks since the loan portfolios of the municipalities are above average while their bond portfolios are below average (in case of which – even if to a minimal extent – they could be able to influence conditions). It can be stated that bigger towns and cities are the most active at investments and these towns' stocks of investment sources also justifies that. The same can be told about the smaller towns and settlements with 5001 to 15000 inhabitants. Due to their better financial conditions they can also issue bonds and securities, so in their case the stock of bonds and securities conspicuously jumps to a level exceeding the sample average. The largest towns and the cities with county rights are hardly ever forced to draw in external sources for their operation, as it is also reflected in their financing of education on all levels. In their case the external sources are used entirely for financing investments. In the previous part we demonstrated the current state of indebtedness related to the municipalities of the sample. In the following section we would demonstrate the future intentions of municipalities regarding involvement of external sources. We studied and analysed the intention of borrowing loans as of the whole sample and have also mapped when and in what forms the municipalities intend to borrow the external sources.

After examining the indebtedness data we applied the method of quota-based sampling in order to discover whether there is a significant difference between the proportion and forms of loans borrowed for operation and investment of at least two groups according to legal status and the number of population. The results are shown in the below table.

Table-3: **Correlation of proportion of loans borrowed for operation and investment in groups related to the legal status, N=256**

	F	Sig.	Total, N=256	Villages, N = 193	Towns, N = 58	Cities with county rights N = 5
Proportion of loans borrowed for operation	1,24	0,291	20,85	22,11	18,41	0,40
Proportion of loans borrowed for investment	1,29	0,278	40,05	39,37	39,76	70,00
Bonds issued for operation	3,49	**0,032**	0,63	0,08	2,41	1,20
Bonds issued for investment	38,04	**0,000**	9,96	2,70	32,52	28,40

Source: own research in 2009 (One-way Anova, levels of measure: ratio)

The table shows a significant difference in the proportion of stocks of bonds according to legal status. It means, that villages that performed much below the sample average level compared to the average value of stocks issued for operation, therefore this form of drawing in external resources is less relevant in their case. Towns, which exceeded the average, therefore their stocks of bonds for operation are the biggest. Towns with county rights also possess above average proportions, but the difference in their case is not as big as with towns.

There is a significant difference between the stocks of bonds for investment in groups according to legal status. The picture is almost the same as in the previous case, villages possessing minimum values, therefore remaining way below the average. This type of resources is typical mainly of towns and towns with county rights, as is shown by the significant figures. We can state that issuing bonds is mostly typical of towns where there are insufficient revenue capacities and, at the same time, the necessary economic foundations.

Table-4:   Correlation of proportion of loans borrowed for operation and investment in groups related to number of population N=256

	F	Sig.	Total, N = 256	501-1000 p, N = 69	1001-5000 p, N = 130	5001-10000 p, N = 28	10001-15000 p, N = 12	15001 p above, N = 17
Proportion of loans borrowed for operation	3,16	**0,015**	20,85	31,01	17,16	25,18	11,25	7,47
Proportion of loans borrowed for investment	1,81	0,127	40,05	31,30	46,25	32,11	34,83	44,94
Bonds issued for operation	8,28	**0,000**	0,63	0,00	0,00	0,54	9,58	1,82
Bonds issued for investment	27,91	**0,000**	9,96	0,00	3,53	31,46	36,00	45,76

Source: own research in 2009 (One-way Anova, levels of measure: ratio)

Segments based on number of population show significant difference in three main types of source. The strongest significance can be seen in connection with the portfolio of bonds. Issuing bonds for operation is mainly characteristic for relatively big towns with population over 10001. The most noticeable deviation can be seen at towns of central and regional characteristics with population between 10001 and 15000 with a value reaching almost 10%. Furthermore, it can be stated that none of the small towns and villages with population under 5000 inhabitants possess bonds issued for operation. Strong significance can be noticed in the case of portfolio of bonds for investment. This source is most characteristic for larger towns with population over 50001. As for small towns concerned, the values are also well below average. The third area where a significant difference can undoubtedly be proven is the proportion of bank loans for operation. The situation, in comparison with the previous source group is the opposite. This source type is most characteristic for small towns and villages and the deviation from the average is the largest in this case. The towns with population between 5001 and 10000 also possess values above average. It is surprising that the second segment has values below the

average and it might be a possible proof of a slightly better material position compared with the small towns. It is the least characteristic for bigger towns and towns with county rights that they cover their expenses by borrowing loans for operation. The first part of the analysis has been conducted regarding the whole sample whilst the other part of the analysis has been projected in a more narrow way, only municipalities with the intention of drawing in external sources in the near future were taken into consideration.

Figure-4: The proportion of municipalities with the intention of using external sources as of the whole sample, also segmented by legal status and number of inhabitants (in %)
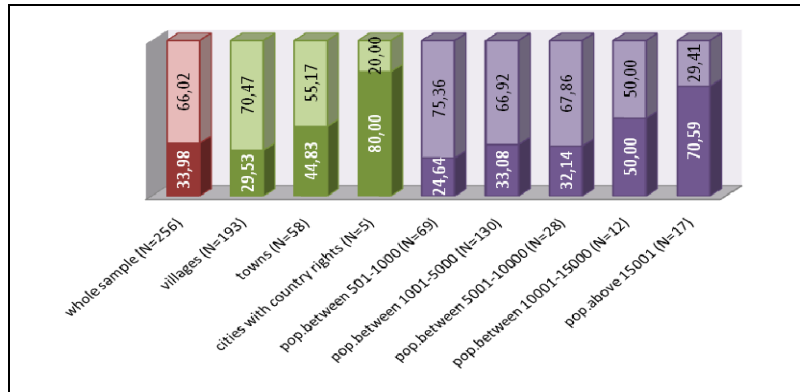
Source: own research, 2009 (dark colours = with plans of borrowing external sources in the near future, light colours = without plans of borrowing external sources in the near future, level of measure: nominal)

Both the form and timing of borrowing show a very diverse picture. As a conclusion it can be summed up that 34% of all municipalities of the sample is about to plan borrowing and altogether it totals 87 municipalities. In the following part we make statements according to this restricted sample. Thereafter we analysed the connection of both the method and timing of borrowing with the number of inhabitants and legal status. The proof of this connection was conducted by using chi-square tests, the values of the result of which is demonstrated in Table 5.

Table-5: **The values of Pearson's chi-square test according to the time of borrowing, the number of inhabitants and the legal status of the towns and villages, N=87**

Chi-square values		population	legal status
Bank loan	within 1 year	*0,026*	0,667
	within 1-5 years	0,221	0,862
	over 5 years	0,177	0,454
Bond issue	within 1 year	0,329	*0,049*
	within 1-5 years	0,415	0,800
	over 5 years	0,176	0,305

Source: own research, 2009 (level of measure: nominal)

Correlation can only be demonstrated at figures of borrowing within one year, in case of bank loan at number of inhabitants, and finally in case of bond issue at legal status. The results are demonstrated in the following cross tabulation.

Table-6: **The connection between bank loan intended to be borrowed within one year and number of population**

Bank loan intended to be borrowed within one year		*501-1000 p 19,54%*	*1001-5000 p 49,43%*	*5001-10000 p 10,34%*	*10001-15000 p 6,90%*	*15000 p above 13,79%*
"NO"	row % in the ratio of taking bank loan	5,71	62,86	8,57	2,86	20,00
	column % in the ratio of population	11,76	51,16	33,33	16,67	58,33
	AdjR	-2,67	2,06	-0,45	-1,22	1,38
"YE"	row % in the ratio of taking bank loan	28,85	40,38	11,54	9,62	9,62
	column % in the ratio of population	88,24	48,84	66,67	83,33	41,67
	AdjR	2,67	-2,06	0,45	1,22	-1,38

Source: own research, 2009 (Crosstab analysis, levels of measure: nominal, Chi-square trial, value=0,026 < 0,05, AdjR=adjusted standardised residuum, N = 87)

The Chi-square value related to bank loan intended to be borrowed within one year and the number of population is 0,026, so the existence of correlation is statistically proven. Based on the value of the adjusted standardised residual we can state that above the expected value we find villages with population between 501 and 1000 with the intention to borrow bank loan within one year. On the contrary, fewer towns belonging to the next category intend to do so and that is why the values of those intending to borrow this loan are well below the expected values. The other source group showing significant correlation, as demonstrated in the following chart, is the bonds planned to be issued within one year. The correlation between source type and legal status is proven by Chi-square value (0,049). Based on the value of the adjusted standardized residual we can state that small towns show deviation from the expected values. As for this source type concerned there are fewer small towns with the intention of using this form of borrowing loan and there are more towns wishing not to issue any bonds within one year.

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Table-7:   **The connection between bond issued within one year and legal status**

Bond issued within one year		*villages* *65,52%*	*towns* *29,89%*	*cities with county rights* *4,61%*
„NO"	row % in the ratio of taking bank loan	*68,29*	28,05	3,66
	column % in the ratio of population	*98,25*	88,46	75,00
	AdjR	**2,21**	-1,52	-1,69
„YES"	row % in the ratio of taking bank loan	*20,00*	60,00	20,00
	column % in the ratio of population	*1,75*	11,54	25,00
	AdjR	**-2,21**	1,52	1,69

Source: own research, 2009 (Crosstab analysis, levels of measure: nominal, Chi-square trial, value=0,026 < 0,05, AdjR=adjusted standardised residuum, N = 87)

3. CONCLUSIONS AND RECOMMENDATIONS

Based on the above results it can undoubtedly be stated that despite the financial crisis and higher interest rates, the intention of borrowing bank loan by the municipalities has not been halted. In most cases the reason is necessity. Having insufficient funds provided for performing their duties, there is no other way left for the municipalities than drawing in external sources.

The consequences, however, in case of incidental mass insolvencies of some municipalities are unforeseeable. Therefore, we advise the decision-makers to establish a debt registry as soon as possible and we also advise implementing central countersignature for all borrowed loans by the municipalities in order to secure future, a direction into which the government has already made decisive efforts in the past months.

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