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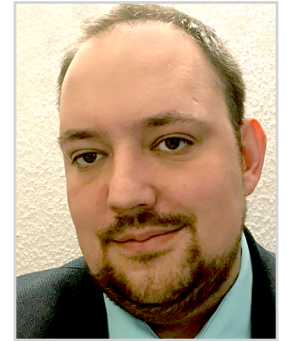
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Certain issues of the sustainability of public services in municipalities on macro and micro levels, with special regard to the period of the COVID-19 pandemic crisis in Hungary

Abstract

The study examines the task performance and the financial management by Hungarian municipalities in two dimensions between 2011 and 2021. On the one hand, the revenues and expenditures, their composition and the debt of Hungarian municipalities are analysed from a macro-financial perspective and in the context of the European Union. On the other hand, in our analysis conducted with a microeconomic approach, we are seeking an answer for the question as to how local governments assess the quality of their own task performance and the changes in their revenues between 2018 and 2021 during a pandemic crisis that has «arrived» at a stabilised status. In the periods of two years before and after the pandemic, we aim to expose substantial effects and their abrupt changes through pieces of empirical research. In our study, we have set up two hypotheses. First, the economic crisis arising in the wake of the COVID-19 pandemic has considerably impaired the municipalities' task performance and their revenue-earning potential. Our other hypothesis is that the pandemic has had a more dramatic economic impact on larger municipalities. We carried out the macro-financial examination with time series analysis, while the microeconomic analysis was based on a survey, which was mainly assessed with descriptive statistical methods and with the help of variance analysis as a multivariate method. The most important conclusion of the study is that a strong centralisation of a Hungarian type was capable of managing and consolidating the fiscal overspending before 2010 and the financial crisis of 2007 and 2008 simultaneously, but in the case of an exogenous crisis it considerably decreases the responsiveness and resilience of municipalities.

Keywords: Task Performance; Crisis; Centralisation; Decentralisation; Public Services; Public Finances

JEL Classification: C24; H10; H20; H50; H60

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1. Introduction

The financial stability of municipalities and even the increase in their resources have special relevance for the quantity and quality of public services provided by them and exert a positive pull effect. The changes in their resources come to the fore during the COVID-19 epidemic, since available resources are decreasing in both the central fiscal sector and the budget of municipalities; in addition, the inflationary spiral is also intensifying.

After the crisis years of 2007-2008, the financial management situation of both the central budget and municipalities have significantly improved in the EU, and from 2017 positions have become generally more stable, which is also true for Hungary (Lentner, 2014).

In our study, we track the stabilisation process of the municipal sectors of EU-28 Member States in the past decade and confirm that the improving Hungarian positions have been following the trends within the EU. We support that with figures from the period between 2011 and 2019 as facts.

Beyond a financial analysis, this positive development is supported by a representative study carried out over time in Hungary's municipalities and empirical research on task performance and their financing. It was carried out with the help of questionnaires between 2018 and 2021, seeking an answer to the question as to what extent were crisis-proof municipalities, consolidated and taken under strong government control until 2019.

2. Brief Literature Review

The task performance by local governments and their companies, and the division of duties between the state and municipalities in particular, is widely studied by international literature. Fiscal federalism practically means the division of duties between the levels of public finances. Its evolution has been determined by several factors, including:

- historical traditions;
- opportunities of public finances;
- lobbying power manifesting on central and local levels (Bird, 1995; Szalai, 2002).

A detailed description of the division between the levels of government was first provided by the pioneers of fiscal federalism (Tiebout, 1961; Oates, 1968; Musgrave, 1989). Public duties can be performed in a centralised and in a decentralised way. The advocates of decentralisation argue that local authorities have a more accurate understanding of the needs of the population regarding human and public utility services, and consequently, they may be more successful at performing public duties, and transactional costs are also lower. However, the advocates of centralisation hold up the spill-over effect as an example for an external effect, during which local authorities do not consider the effect exerted on other municipalities in relation to their task performance. (Helm & Smith, 1987; Abramov, 2016; Rodnyansky, 2019).

During the subprime mortgage crisis and the subsequent worldwide economic crisis, broken out in 2007, central transfers provided for local governments were cut in many countries, especially in the United Kingdom and the United States, further increasing the pressure on local governments (Gray & Barford, 2018; Kim & Warner 2018, 2021; Lentner et al., 2021). Problems in the United States were exacerbated by a drop in local tax revenues, which were levied mainly on properties (Wen et al., 2018). As the examples cited illustrate, the theory of fiscal federalism should place more emphasis on the resilience of local and central budgets, that is, on the establishment of adequate reserves and the creation of a consensual task performance and financing system. The notion of resilience has become a major focus of studies in relation to the pandemic, and it means the capacity to recover quickly from difficulties (Szép et al., 2020).

The economic crisis arising in the wake of the COVID-19 pandemic has imposed completely new demands on municipalities. In its note, OECD (2020) concluded that they saw an effective crisis management solution in the close cooperation between the local governments of cities and the central level. In this respect, the study identified six major measures:

- Active communication to improve discipline;
- Supporting the preservation of jobs and facilitating communication;
- Enforcing and, if necessary, fine-tuning social distancing measures;
- Protecting vulnerable groups by targeted measures;
- Preserving and maintaining the quality of local public services;
- Supporting the local economy.

We should note that Hungary's crisis management has not completely complied with OECD's recommendation, which is explored by our analysis, and by doing so, our study may acquire a unique character. The starting point of our study is the improving data of the European Union in the 2010s, i.e. the decade before the pandemic, with which the positions of Hungarian municipalities were also aligned but in the case of these Hungarian municipalities, it was as a result of a process of strong centralisation and central government intervention. Central government measures may exert an adverse effect on this relatively stabilised financial background of Hungarian municipalities, as the interventions during the pandemic crisis are also of a central government background.

Due to this strong centralisation, prevailing in the past and also currently, Hungarian municipalities hardly have any means.

The COVID-19 pandemic affects not only basic operations considerably but also the economic basis (Karácsony, 2020). Based on the research by Maher, Hoang and Hindery (2020), in order to maintain liquidity, local governments cut back their discretionary spending, which is followed by asset-related expenditures, including maintenance and capital ones; and employee hours are regulated to avoid layoffs. On the revenue side, they are less likely to implement tax and fee increases. They seek to maintain the quality of public services for the operability of the municipality.

Warner et al. (2020) call attention to the fact that demographic features also strongly influence the resilience of municipalities. Municipalities with higher numbers of elderly people and people raising children had significantly higher levels of expenditure during the pandemic.

3. Purpose

The study examines the Hungarian local government system facing the COVID-19 pandemic crisis, which had undergone a peculiar reform introduced from strong central government levels in the pre-pandemic period. It focuses on the resilience of this over-centralised, over-regulated Hungarian local government subsystem, and the analysis of the public services provided by it and its public utility companies. On the basis of these purposes, the study aims to produce new, unique scientific results.

4. Materials and Methodology

The study has two main focuses of examination; the first one is a macroeconomic examination, under which we examined, within the framework of time series analysis, the following:

- Value of revenues of the local government subsystem relative to GDP between 2011 and 2020 and their composition between 2011 and 2019 in Hungary;
- Value of expenditures of the local government subsystem relative to GDP between 2011 and 2020 and their composition between 2011 and 2019 in Hungary;
- Debts of the local government subsystem relative to GDP between 2011 and 2020;
- Budget transfers in the period from 2019 to 2021.

With the macroeconomic examination, our aim is to explore the Hungarian trends of local governments' financial management; as a comparison, we examined the revenue-to-GDP and expenditure-to-GDP ratios of the EU-27 Member States and the eurozone.

Then, during the microeconomic analysis, we conducted a survey on municipalities' task performance between 2018 and 2021; in each year under review, 334 municipalities, that is, 10.5 per cent of all municipalities (3,178) responded, thereby our sample is adequate for drawing comprehensive conclusions and covers the whole country. Our study commenced in 2018 has basically incorporated the analysis of the economic effects caused by the pandemic crisis uninterruptedly, i.e. this aspect has been added. Respondents were typically mayors and notaries. Research periods lasted - aligned with the budgetary cycle - until 31st March of each year, with 2020 being the only exception, when the research was carried out in Q3, until 30th June, in order to have a better assessment of the effects of COVID-19.

In the survey, we asked about the quality of the performance of local government duties in the municipality on a Likert scale of 1 to 10; in addition, the revenue side was also analysed on the basis of major items. The definition of public duties is in accordance with the duties specified in the Hungarian act on local governments.

The composition of the sample examined is characterised by Table 1. In the study, we included municipalities that provided data in each year of the examination; thus, we could work with

Table 1:
Composition of the test sample

	N	%	National	%	Difference
Small village	278	83.2%	2,680	84.4%	-1.20% points
Village	15	4.5%	119	3.7%	0.80% point
Town	27	8.1%	155	4.9%	3.20% points
Seat of district	8	2.4%	174	5.5%	-3.10% points
City of county rank	3	0.9%	23	0.7%	0.20% point
Capital city district	3	0.9%	23	0.7%	0.20% point
Total	334	100%	3,174	100%	N/A

Source: Own research (2021)

an identical panel. Municipalities reached by the questionnaires - as we have already mentioned - amounted to 10.5%. When compiling the sample, we wanted it to be representative regarding the municipalities' legal statuses.

The test sample reveals that the proportion of small villages is slightly different from the national share, by 1.2 percentage points, while villages slightly exceed the national share. Towns are presented above the national figure by 3.2 percentage points, and seats of districts are presented under it approximately to the same extent. The proportion of cities of county rank and that of capital city districts are extremely slightly different from national proportions. On the basis of these factors, we regard the survey as representative of the legal statuses of municipalities. Accordingly, the legal status is examined by the questions in full detail, however, territorial dimensions (i.e., the administrative unit in which the respondent municipality can be found) are disregarded in our study.

In our examinations, responses were subject to descriptive statistical analyses, and, in order to explore the differences related to the legal status of municipalities, we performed an analysis of variants, and with the help of the Scheffé Test we identified the municipalities whose average figures were significantly different from each other.

The research question is how Hungarian municipalities perceived the performance of local government duties and its financing between 2018 and 2021, with special regard to the economic impact of the COVID-19 pandemic.

The research hypothesis is that macro-level stabilisation (the evolvment of budget-level stabilisation since 2017, the appearance of a balance between revenues and expenditures as well as tasks) was also felt by local governments, but it was broken by the economic crisis arising in the wake of the pandemic. This hypothesis is based on the fact that budgetary austerity measures decreased the municipalities' room for manoeuvre, and consequently, they were less able to react to the challenges posed by the pandemic. Due to a decreasing room for manoeuvre and liquidity problems, the quality of task performance has been impaired; the assumed process can be particularly felt since 2020.

Furthermore, we assume that different types of municipalities have been affected to different extents by the effects of the pandemic. It is due to the fact that different municipalities have different revenue structures, and the quantitative and qualitative requirements of the performance of public duties also differ greatly.

Of the public duties performed, the tested variables included:

- education and teaching;
- social care;
- healthcare;
- culture-related tasks;
- operating public utilities and infrastructure;
- municipal management;
- asset management;
- public administration and public order.

Of revenues, the following variables were examined:

- local tax revenues;
- operational transfers;
- accumulation transfers;
- revenues from fees and asset utilisation.

5. Results

5.1. Macroeconomic analysis

In the first part of our research, we examined the macro-financial characteristics of the Hungarian local government system between 2011 and 2019, but before that, we detected the comprehensive positioning data of the European Union's local government system.

Table 2 reveals that a decreasing (shrinking) trend is unfolding in both the EU and the euro-zone among municipal expenditures and revenues as a share of the GDP, following a recovery from the subprime mortgage crisis. In terms of the expenditures as a percentage of the GDP, 2019 represents a trend reversal, when municipalities' expenditures as a share of the GDP are broken in the EU and turn into a slight increase, then the balance also falls into the negative

range. The increase in expenditures in 2020 was explained by the crisis measures brought about the COVID-19 pandemic. The trend reveals that in times of crisis, local government subsystems in the EU and the eurozone respond with expanding expenditures, and even deficit also appears again, while in boom periods expenditures drop, that is, counter-cyclical policies are pursued.

All this is confirmed by the fact that the budget balance was in deficit only in one of the crisis years, while in the EU-27, deficit could be observed in two years. In other years, the balance was in equilibrium or surplus. However, due to COVID-19, deficit could be observed again, although it has not reached the figure of the negative budget balance of 2011 (Table 2). Naturally, it may vary from one country or group of countries to the other, as various models of financing health and social care and other public services are adopted.

After the introduction of the EU, Hungarian municipal budget figures are presented (Figure 1 and Figure 2).

The Hungarian figures also illustrate a considerable decrease in the revenue- and the expenditure-to-GDP ratio, but it significantly exceeds the decrease of the EU-27 and the eurozone. When compared, the expenditure-to-GDP ratio decreased by 0.6 percentage point in these two groups of countries between 2013 and 2018, and this figure was over 6 percentage points in Hungary in the period between 2011 and 2016. As a result, the decreasing trend preceded the decrease observable in the EU, which cannot be deduced from a counter-cyclical local policy but from a Hungarian local government system ready for reform.

The dramatic decrease in the Hungarian expenditure-to GDP ratio could be contributed to, first, the transformation of the task system, second, centralisation, and third, the central assumption and consolidation of debts, that is, it was caused by external factors. As a result of the comprehensive measure, an equilibrium was achieved, as sector-level deficit was detectable only in one of the years (in 2019); the prevention of deficit and its further proliferation are guaranteed by fiscal

Table 2:

Revenues and expenditures of the local government subsystems of the EU-27 and the eurozone, and their balance as a percentage of the GDP between 2011 and 2020

Type	Region	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Expenditures in a GDP%	European Union - 27 countries	11.4	11.4	11.4	11.3	11.1	10.9	10.8	10.8	10.9	11.7
	Euro area - 19 countries	10.2	10.2	10.2	10.1	9.9	9.7	9.6	9.6	9.7	10.4
Revenues in a GDP%	European Union - 27 countries	11.2	11.4	11.4	11.3	11.2	11.1	11	11	10.9	11.6
	Euro area - 19 countries	10	10.2	10.1	10	10	10	9.8	9.8	9.7	10.3
Balance in a GDP%	European Union - 27 countries	-0.2	0	-0.1	-0.1	0.1	0.3	0.2	0.2	0	-0.1
	Euro area - 19 countries	-0.2	0	0	0	0.1	0.2	0.2	0.2	0	-0.1

Source: Eurostat (2021)

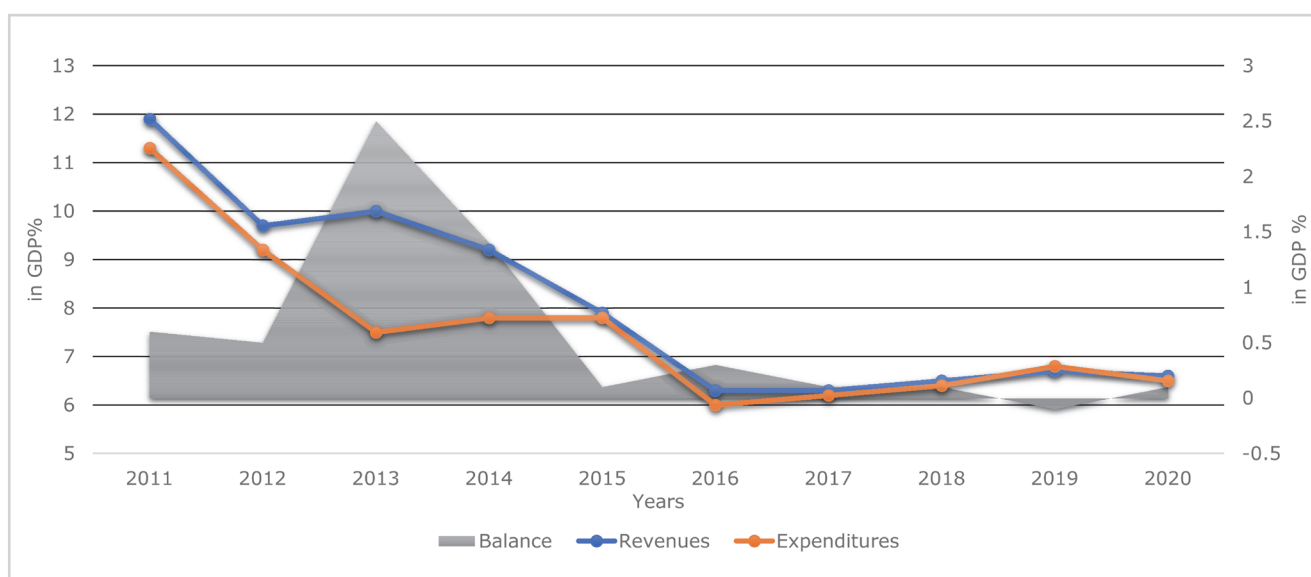


Figure 1:
Revenues, expenditures and balance of the Hungarian local government subsystem as a % of the GDP between 2011 and 2020

Source: Eurostat (2021)

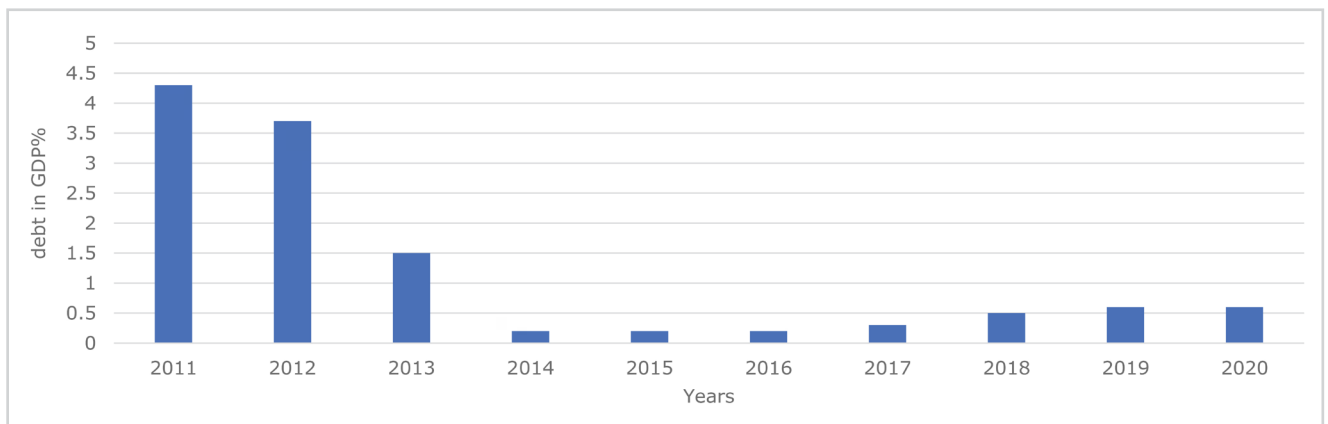


Figure 2:
The debts of Hungary's local government subsystem as a percentage of the GDP between 2011 and 2019
Source: Eurostat (2021)

rules (for details of the restructuring of Hungarian local governments and the judicial checks of re-indebtedness, see: Lentner & Hegedűs, 2019)

As it was explained in the previous section, local governments' debts were assumed (that is, centralisation by the central budget was implemented) between 2011 and 2014, and consequently, the debt-to-ratio of the local government subsystem significantly decreased. From 2017, however, an increase can be observed, as a result of an increase in specific debt components, current liabilities in particular. There are no fiscal restrictions applicable to this liability component, as opposed to constructions of credit and leasing types, generating onerous liabilities.

Vasvári (2020) believes that the Hungarian reform has introduced hierarchical fiscal rules without supporting the organic development of fiscal discipline. The four major debt management strategies that are typical in the EU were evaluated by Vértesy (2020); one of them is state intervention. The Hungarian local government reform was characterised by external reforms controlled (introduced) from the central level of public finances and usually «arranged» by way of legislation.

Plósz's study (2019) highlights the factors with which the debt of the local government subsystem can be «grown out» of, in post-Socialist, «Eastern» Member States, joining the European Union after 2004. Plósz's analysis (2019) established that revenues deriving from income-type taxes and social contributions distort economic growth, and thereby slow down catching-up processes, thus impede the reduction of the debt-to-GDP ratio. Of budget expenditures, economic activities, social securities and culture are relevant from the perspective of convergence, i.e. «growing out of debt» - in addition to the types of local government systems. The author concludes that the structure of revenues and expenditures - particularly the structure of revenues - of Hungarian local governments supports Hungary's catching-up processes, and consequently, those of Hungarian fiscal sustainability, also following the subsidence of the coronavirus epidemic. Plósz's ideas are, without doubt, acceptable until the beginning of the epidemic crisis, i.e. early 2020.

Below, the composition of revenues are examined. In Figure 1, falling revenues are shown and recorded; causes are being explored now. In the time series presented in Table 3, revenues from budget transfers exhibited the most significant decline, which can be regarded as continuous since 2011, a very slight increase can be observed in 2019, precisely because the positive effects of fiscal centralisation had been weakening over time. Budgetary support was transformed since 2013, as the system of normative subsidies has been replaced by financing duties. The reduction of aids from the central budget (normative subsidies) is almost completely caused by the centralisation of duties to maintain institutions (education, healthcare), taken away from local governments and

Table 3:
Distribution of Hungarian local governments' revenues as a percentage of the GDP between 2011 and 2019

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Tax revenue	2.37	2.39	2.23	2.14	2.22	2.24	2.18	2.17	2.15
Intergovernmental transfer	6.96	5.10	5.32	4.61	3.29	3.02	3.12	2.92	2.93
Fees	1.00	0.86	0.88	0.72	0.75	0.72	0.70	0.86	0.85

Source: OECD Fiscal Database (2021)

assumed by the central budget. The specific amounts of subsidies are defined by the current act on the central budget. The essence of the system is that the size and tax capacity of municipalities are considered when subsidies are determined; in addition, solidarity contribution, to be paid by municipalities with the greatest tax capacities to contribute to the performance of educational public duties, has been introduced. According to Jelinek's viewpoint (2020), this transformation has strengthened fiscal discipline, but - in an economic sense - it has limited municipalities and reduced their room for manoeuvre.

Local tax revenues were relatively stable in the period examined, the greatest share of them was generated by local business tax, with a penetration of almost 85%. The slight decrease was not caused by cuts but GDP growth, which was more dynamic than that of tax revenues, and a denominator effect ensued.

Revenues deriving from user charges did not change considerably, the drop in 2014 was contributable to the takeover of assets. However, an increase can be observed from 2018, which derives from an increasing asset value and the utilisation of the assets created.

In the time series - obviously - the exact impact of the crisis management measures in 2020 and 2021, which have adversely affected local governments, was not yet available. The most important ones of these included:

- the suspension of tourism tax in 2020, which has been detrimental mainly to municipalities having an interest in tourism;
- in 2020, the obligation to pay vehicle parking charges was suspended; this measure was based on the idea that the population should use public transport as rarely as possible;
- some investment projects became of national economic importance (special economic zones) in 2020, the management, regulation and tax revenues of which were transferred to the competent county-level governments (and not to municipalities). County-level governments are mainly interested in land development, and they did not use to have any right of taxation but received a share of the tax and duties collected in their areas;
- in 2020 and 2021, vehicle tax, which used to be a shared central tax, was taken away from municipalities; at the moment, it exclusively contributes to the revenues of the central government;
- municipalities have not been allowed to levy any new taxes or apply valorisation of property taxes in 2021;
- small and medium-sized enterprises have been given the opportunity for a local (municipal) tax relief in 2021, according to which the ceiling of 2% of the tax is reduced to 1%, provided that the enterprises make a declaration thereon.

These were the most important, mainly economic interventions; however, the introduction of the state of emergency has also limited the operations of mayors and decision-making bodies. Thus, these measures have inflicted a significant loss of resources on municipalities, while their duties, their participation in local crisis management would require extra resources (Pálné, 2020; Baranyai et al., 2021; Kovács, 2020).

Table 4 shows how governmental functions as a share of the GDP changed in the Hungarian local government system. In terms of expenditures, the time series contains some years bringing about two significant changes: year 2011, 2013 and 2016. In the first two years mentioned, the reason for this change was the transformation of the system of duties and competencies, as a major share of education and healthcare duties was centralised, which significantly influenced the decrease in expenditures as a share of the GDP. In 2016, almost all expenditure groups demonstrated a decrease. Environmental protection suffered from the largest cutback in

Table 4:
Distribution of Hungarian local governments' expenditures as a percentage of the GDP between 2011 and 2019

	2011	2012	2013	2014	2015	2016	2017	2018	2019
General public services	1.9	1.9	1.7	1.9	1.9	1.5	1.6	1.7	1.8
Economic affairs	0.7	1.1	1.2	1.4	1.3	1.2	1.2	1.4	1.4
Environmental protection	0.4	0.4	0.7	0.7	0.9	0.1	0.2	0.2	0.3
Housing and community amenities	0.5	0.5	0.6	0.6	0.8	0.4	0.4	0.4	0.5
Health	1.9	0.7	0.3	0.3	0.3	0.2	0.3	0.3	0.3
Recreation, culture and religion	0.7	0.6	0.6	0.7	0.7	0.6	0.7	0.8	0.8
Education	3.1	2.6	1.2	1.1	1.1	1.1	1.0	1.0	1.0
Social protection	1.5	1.2	1.1	1.0	0.8	0.7	0.7	0.7	0.7

Source: Eurostat (2021)

expenditure in that year; that year was the low peak of this time series. From 2017, expenditures as a share of the GDP were increasing in the system, the government functions listed produced an increase, but did not reach pre-2016 levels.

After examining the trends, the composition of expenditure is scrutinized in a time-series analysis of the shares of specific duties within total spending. While the greatest volume of expenditures (29%) was represented by education in 2011, the share of expenditures as a share of the GDP related to this function declined to 4%. There was a significant drop also in the share of healthcare expenditures, from 18% to 4%. The drastic extent of the drop is not an accident, since as it has been already referred to, the responsibility for performing these duties have been taken over by the state, by centralising them. The share of social expenditures also decreased, by 4 percentage points.

A significant change in the composition of expenditures is demonstrated by the fact that the share of economic activities tripled in the time series examined, but expenditures on public services, as well as recreation, culture and religion considerably increased. Thus, this leads to the conclusion that the portfolio of municipal duties mainly focuses on handling matters related to the municipality; regional functions, including human public services, have been devolved to state competence.

Supports from the central budget are specified in the Budget Act; their figures between 2019 and 2021 are shown in Table 5.

Municipalities receive support within the framework of task financing, in the amounts determined in the Budget Act and in accordance with normative subsidies. When this manuscript was closed (31st March, 2021) the budget for 2022 has not been adopted yet. Hungarian public finances have two subsystems, and the relationship between them is ensured by the net settlement of budgetary transfers. Supports in the budget are included as operational support, support for educational tasks, social support, cultural and additional support. Consequently, they appear in a more combined way than their grouping according to the classification of functions of government (COFOG). In addition, additional supports for accumulation purposes also appear. Beyond that, the budget also provides individual investment supports under three schemes as well as via individual supports.

Supports from the central budget demonstrate an increasing trend since 2019; the extent of this increase is particularly great to 2021. Of the items of support specified in the Budget Act, only cultural-related supports decreased; by contrast, supports for public education purposes have increased by 53.1% compared to 2019, and additional supports for operational purposes have also grown, the aim of which is to compensate for the loss of local tax revenues, although only a partial effect can be presumed.

Nevertheless, slightly increasing central supports are incapable of compensating for the difference appearing on the revenue side. Budgetary transfer will grow by HUF 169 billion (or EUR 475 million) in 2021; on the revenue side, however, there is a loss of local taxes amounting to some HUF 150 billion, and the loss of revenues deriving from vehicle tax amounts to HUF 20 billion

Table 5:
Budget transfers to the local government subsystem between 2019 and 2021

Item	In million HUF			Total amount of expenditure in %			In million EUR		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
General support for the operation of municipalities	157,592	173,601	265,705	0.77%	0.80%	1.06%	477	475	731
Support for specific public education tasks of municipalities	189,713	1914,80	216,568	0.92%	0.88%	0.86%	574	524	595
Support for specific social and child welfare tasks of municipalities	164,200	163,673	179,936	0.80%	0.75%	0.72%	497	448	495
Support for the child nutrition tasks of municipalities	78,974	82,482	87,025	0.38%	0.38%	0.35%	239	226	239
Support for the culture-related tasks of municipalities	38,483	14,743	22,631	0.19%	0.07%	0.09%	116	40	62
Additional support to municipalities for operational purposes	50,885	84,965	114,237	0.25%	0.39%	0.46%	154	233	314
Additional support to municipalities for accumulation purposes	49,071	28,103	22,753	0.24%	0.13%	0.09%	148	77	63
Total	728,917	739,047	908,854	3.54%	3.59%	4.42%	2,205	2,024	2,499
Investment support in other chapters	245,000	239,000	242,000	1.19%	1.10%	0.97%	741	655	665

Source: Budget Acts (2019-2021)

in the local government subsystem as a whole. Revenues from parking charges concern roughly 300 municipalities; they have HUF 50 billion less revenues. However, municipalities do not perform this task directly, but through municipally owned companies, which raises the issue of considerable lacks of financial coverage for their activities to provide other public services. Summing it up, it can be concluded that the central budget has put so much burden on municipalities by 2021 that they have suffered from - also taking their extra revenues into account - a balance deterioration of more than HUF 50 billion (or EUR 143 million). All this reduces the municipalities' financial room for manoeuvre, ability to perform public duties, resilience, not mentioning other resources lost due to a general decline in the economic activity.

5.2. Microeconomic Analysis

After the macroeconomic analysis, we seek an answer to the question as to how the leaders of municipalities perceive the centrally implemented transformation of the local government system, so to say, its outcome (2018-2019), and the period of the pandemic, entailing budget cutbacks on the whole. In relation to that - continuing one of our earlier research projects, the quality of their performance of public duties, subject to self-assessment, was examined. It is important to emphasise that the survey targeted human public services manifesting in the public administrative territories of municipalities. However, the majority of these service provider institutions (healthcare, education) are neither maintained nor financed by municipalities, since the government mostly took over their operation in the first half of the past decade, except for the field of culture, which is maintained by municipalities, but receives considerable normative subsidies from the state. That is, we measured the quality of public services provided within the administrative territories of municipalities, irrespectively of the fact whether they are financed by the state, the municipality or in a hybrid way.

The public duties performed were put in three groups. The first one was the group of human public services (Table 6).

The results of the survey concluded that based on the average and mode values, the human public services examined outline a deteriorating trend. The data demonstrate well the impact of the pandemic, since the quality of the public services examined has significantly dropped on the basis of the municipal leaders' «self-assessment». The deterioration begins in 2019 (before the pandemic), a slighter drop can be observed here, but it intensifies in 2020 and 2021 as well. Various municipal levels have perceived the changes to various extents. When the data of 2021 are examined, significant differences can be observed among different categories of municipalities. Respondents have regarded education and teaching and social care to be relatively the best, while culture-related tasks and healthcare to be the worst. Increasing pressure due to the pandemic also plays a role in the quality drop of healthcare services, and culture is the sector which is affected first by budget cutbacks, irrespectively of the system.

It can also be concluded that the average values of municipal categories deteriorate as the population number grows. It can be especially observed among healthcare and culture-related functions. The average value is the highest in small villages, while it reached the lowest value in

Table 6:
Results of human public services between 2018 and 2021

Item		Education and teaching 2018	Education and teaching 2019	Education and teaching 2020	Education and teaching 2021
N	Valid	334	334	334	334
Mean		6.52	6.37	4.83	4.80
Mode		7.00	6.00	4.00	4.00
		social care 2018	social care 2019	social care 2020	social care 2021
N	Valid	334	334	334	334
Mean		6,55	6,54	3,95	3,85
Mode		6,00	6,00	4,00	3,00
		healthcare 2018	healthcare 2019	healthcare 2020	healthcare 2021
N	Valid	334	334	334	334
Mean		5,52	5,53	4,07	3,09
Mode		6,00	6,00	4,00	3,00
		culture-related tasks 2018	culture-related tasks 2019	culture-related tasks 2020	culture-related tasks 2021
N	Valid	334	334	334	334
Mean		5,53	5,35	3,92	3,12
Mode		5,00	5,00	4,00	3,00

Source: Own research (2021)

cities of county rank. It is contributable to the fact that these public services usually meet the needs of larger populations, and it is easier to organise these services in smaller municipalities, while in larger cities it requires a more complex system of institutions.

Educational tasks have also imposed greater duties on municipalities; that explains the assessment on the quality of their provision by the municipalities' leaders.

After the changes in human public services, we examined the assessment of public services of a material nature provided within the territory of municipalities by public utility companies. We underline that also in this case, public services provided in municipalities were assessed, which can be state-maintained (e.g., national electricity works) or municipally maintained (e.g., rubbish collection, park development, etc.). Thus, we focussed on the quality of and the changes in services.

According to Table 7, the assessment of the period examined demonstrates a continuous decrease in the quality of public services, based on the opinion of municipal leaders. The largest drop can be observed in municipal management - typically maintained by municipalities - and asset management. The decrease unfolds over the years, but variance analysis shows that it is not significant between 2018 and 2019; in 2021, however, considerable differences have emerged. The post-hoc test established that the value was lower in relation to all public services in towns, cities with county rank and capital city districts. This is explained by the fact that these segments of local government have been affected by government measures to the greatest extent, since they have considerable expenditures on asset and municipal management. Small villages have produced the highest average values in relation to all variables. Surprisingly, it is also true for municipal development, which might be contributable to the resources from the «Hungarian Village» programme, and not to municipal management implemented through their own means. Development resources of the Modern Cities Programme provided for cities with county rank, however, have not induced a higher quality score (for details of the two development programmes, see Hegedűs et. al., 2018).

Table 8 demonstrates a trend in classic public services which is different from earlier ones, as a slight increase can be observed by 2019 from 2018. Data from 2020 and 2021, however, confirm a declining trend. In this type of public services, post-hoc tests did not reveal significant differences between specific municipalities, and variance analysis did not produce a significant difference here, either. The quality of providing public administration may have been impaired by the fact that the conditions to switch to home office were not available in

Table 7:
Results of public utility services between 2018 and 2021

		public utilities, infrastructure 2018	public utilities, infrastructure 2019	public utilities, infrastructure 2020	public utilities, infrastructure 2021
N	Valid	334	334	334	334
Mean		6.55	6.21	3.96	3.07
Mode		6.00	6.00	4.00	3.00
		municipal management 2018	municipal management 2019	municipal management 2020	municipal management 2021
N	Valid	334	334	334	334
Mean		5.29	5.32	4.04	2.98
Mode		5.00	5.00	4.00	3.00
		asset management 2018	asset management 2019	asset management 2020	asset management 2021
N	Valid	334	334	334	334
Mean		5.40	5.43	3.95	2.06
Mode		5.00	6.00	4.00	2.00
		municipal development 2018	municipal development 2019	municipal development 2020	municipal development 2021
N	Valid	334	334	334	334
Mean		6.61	5.77	3.88	3.07
Mode		6.00	6.00	4.00	3.00

Source: Own research (2021)

Table 8:
Results of the assessment of public administration between 2018 and 2021

		public administration and public order 2018	public administration and public order 2019	public administration and public order 2020	public administration and public order 2021
N	Valid	334	334	334	334
Mean		5.35	5.61	3.89	3.81
Mode		5.00	6.00	4.00	4.00

Source: Own research (2021)

many municipalities, and it resulted in a lower average score reached by small villages and villages.

The trends seen on the expenditure side - a falling average value after 2018 - can be observed at most revenues, with the exception of fees and other revenues, where the average score slightly increased in 2019, and at operational transfers, where the average score slightly increased in 2020 (Table 9). However, we must remark here that the decrease occurred despite the fact that the Budget Act of 2021 provided for a macro-level increase of budget transfers. Here, larger municipalities, towns, cities with county rank and districts produced lower scores based on the outcomes of post-hoc tests. It is contributable to the fact that in these municipalities, the value of government transfer is lower due to higher tax capacities. As a result of COVID-19, local tax revenues have significantly decreased in all local government segments, which had two main reasons: the first one is the deterioration of the performance of companies and the second is the central reduction of the tax rate in 2021. Mainly larger municipalities, i.e. towns, seats of districts, cities with county rank and capital city districts, have been adversely affected by these factors. Almost 80 per cent of local taxes are generated in these municipalities, thus they have suffered heavy losses, in two respects: due to potentially smaller tax bases and the halved tax rate.

Municipalities have experienced the largest decrease in revenues from fees and asset utilisation. This is contributable to the fact that revenues from parking charges have ceased, and the municipality types examined have felt its impact differently, thus cities with county rank and capital city districts have been the most adversely affected. In villages and small villages there is no significant difference between the data of various years.

A decrease of accumulation transfer can be also observed, but its effect was not significant in the different municipality categories, as there have been no significant differences between the average values of different municipality types in relation to the data from 2021.

Table 9:
Results of the assessment of public administration between 2018 and 2021

		local tax revenues 2018	local tax revenues 2019	local tax revenues 2020	local tax revenues 2021			operational transfer 2018	operational transfer 2019	operational transfer 2020	operational transfer 2021
N	Valid	334	334	334	334	N	Valid	334	334	334	334
Mean		5.53	5.36	4.01	3.07	Mean		5.50	5.23	5.75	5.05
Mode		6.00	5.00	4.00	3.00	Mode		6.00	5.00	6.00	3.00
		fees and other revenues 2018	fees and other revenues 2019	fees and other revenues 2020	fees and other revenues 2021			accumulation transfer 2018	accumulation transfer 2019	accumulation transfer 2020	accumulation transfer 2021
N	Valid	334	334	334	334	N	Valid	334	334	334	334
Mean		5.35	5.64	3.94	2.98	Mean		5.72	5.68	4.63	4.00
Mode		5.00	6.00	4.00	3.00	Mode		6.00	6.00	6.00	4.00

Source: Own research (2021)

6. Conclusion

Our study examined the Hungarian local government subsystem in two dimensions, in a macroeconomic perspective and a microeconomic one. The aim of the macroeconomic research was to review the major fiscal indicators of the Hungarian local government system between 2011 and 2019 and 2020, including revenues, expenditures and debts as a share of the GDP. After that, we focussed on the composition of revenues and expenditures. Our results illustrate that the financial management of the Hungarian local government system has significantly changed, and it happened in three phases. Between 2011 and 2013 a new system of financing and tasks developed, which was followed by a temporary period between 2014 and 2016; from 2017, it was consolidated, in line with the trends in the European Union, although reaching its target with a different toolkit. The analysis of macroeconomic figures suggests that the spending structure and the task profile became stable. Since 2020, this process has been adversely affected by the pandemic, which has removed significant resources from local government financing in relation to crisis management measures, which has been partially compensated for on the revenue side by an increase in central normative subsidies. The impact of these measures has not manifested in macro-level data yet, but the expected impact is fairly predictable, namely a constant or increasing total amount of the expenditure alongside decreasing own revenues (cutbacks in local business tax and vehicle tax), which may steer both the financial positions and indebtedness of the local government subsystem in a negative direction.

The microeconomic research was carried out each year between 2018 and 2021, starting from an original status of stable financial positions. Here, we asked the leaders of municipalities about the quality of the public services performed in their municipalities and their revenues. Our research hypothesis was that the pandemic significantly deteriorated the quality of municipalities' task performance and financing, thus in the long term, macroeconomic effects deteriorated municipal operation and financial management. The research has established that on a scale of 1 to 10, the quality of tasks between 2018 and 2019 was typically assessed as medium by the local governments examined, as the typical score that they gave in their responses was 5 or 6. Thus, that might mean that specific tasks were performed according to deteriorating financial conditions. After that, a significant deterioration was detectable in all task and revenue categories, the respondents of local governments considered the quality of task performance and the realisation of revenues poor. This revealed that the operation of local governments has been impaired by both the pandemic and government measures.

Our other hypothesis was that the categories of municipalities defined according to their legal standing were differently affected by the crisis arising in the wake of the pandemic. The research results revealed that the pandemic exerted a greater impact on larger municipalities as the public services provided and their financing have deteriorated more badly, and they have been much more exposed since the public needs of significantly more citizens should be met.

The most important finding of our research is that strong centralisation implemented in the field of municipal debt and public duties is an adequate tool for getting finances in order, it was capable of manage decentralised deficit within public finances resulting from indebtedness and fiscal overspending and placing gradually increasing pressure on municipalities, and it worked effectively even after the equilibrium had been restored, but in the event of an exogenous crisis (COVID-19) it makes the resilience of municipalities inflexible. The Hungarian example also proves that in terms of «survival», municipalities, deprived of their means, can have minimum influence to initiate positive processes. Their future almost exclusively depends on the position of the central government and the central budget. This arises incompliance with the principles and requirements of the European Charter of Self-Government. In municipalities, deprived of their predictable financial backgrounds and their ability of forming them, the substantial part of managing public affairs, that is, regulating and managing their operation within their own competence and providing public services for the population, is impaired, as their financial backgrounds have become greatly dependent on the central government. These conclusions do not constitute a criticism of the comprehensive Hungarian public finance reform implemented between 2010 and 2019 but of the excessively burdensome centralisation measures taken, for the most part, during the crisis management of the pandemic situation.

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