

Balázs TÓTH

**THE IMPACT OF THE 2014 PUBLIC SECTOR ACCOUNTING REFORM ON
THE MANAGEMENT PRACTICES OF HUNGARIAN LOCAL GOVERNMENTS**

Theses of the Doctoral Dissertation

Szeged, 2022

University of Szeged
Faculty of Economics and Business Administration
Doctoral School in Economics

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1. Introduction

The first section of this thesis book describes the relevance of the topic of the thesis, outlines the aims of the research and presents the hypotheses.

1.1 Relevance of the topic

The role of the state as one of, if not the most important actor in the economy, and the way in which it performs its tasks, has always been a matter of concern for the economist community. Public services account for a significant part of the economy and affect a large proportion of economic actors. For this reason, the efficiency and quality of public service delivery is of great importance and, as time goes on, the quality and efficiency of public management is becoming an increasingly important issue for the rest of society. Since the 1970s, there has been a growing demand for public sector reforms (Christensen et al. 2018), and over the last two decades, financial and management control systems that focus on the community and output have gained increasing importance (Hoque 2021).

Information on the quality and performance characteristics of the state's management and on the management of the state is considered important not only for the management of economic entities, but also for the managers of budgetary bodies, creditors, economic agents involved in joint development and investment, or citizens (Simon 2011). This growing demand for information cannot be met without an adequate accounting information system. As a consequence, the proper design of accounting systems can be seen as a central element of public management reforms.

Closely linked to the reform of public management is the reform of the accounting system of the public sector. 80 per cent of OECD countries and 68 per cent of non-OECD countries have indicated their intention to implement accrual accounting in their public sector operations (PwC 2015). In the domestic public sector, accrual accounting was introduced in 2014, when a double-entry accounting system was created, with the introduction of modified cash accounting and modified accrual accounting (Lentner 2019).

The relationship of public management reforms to government accounting is not widely understood. Several researchers and authors (Hood 1995, Buhr 2012, Lokuwadue-Godage 2020) have referred to the spread of accrual accounting as an achievement of the new public management. However, in relation to the emergence of accrual accounting in the public sector, we find that this accounting approach has been much more widespread than most of the proposals of this trend (Pina et al. 2009).

In view of the above, we consider it of particular importance to understand the implications of the 2014 public accounting reform for local government management. The functioning and management of the local government subsystem has repeatedly proven to be a critical area over the last decades, which is why our research focuses on this segment. The renewal of the accounting information system has a fundamental impact on the functioning of the organisations concerned, and the new data that emerge can have a significant impact on public sector decision-making.

1.2. The aim of the dissertation

Given that the public accounting system can affect the functioning of the state and its public perception at many points, for example through management decisions, its proper functioning is crucial. Due to the complexity and size of the subject, some aspects will not be analysed in this dissertation. It is beyond the scope of this thesis to analyse how to optimise the relationship between administrative, management, governance and accounting systems and how to design the functioning of the State organisation. This should be done in such a way that the accounting information system produces sufficient quantities and quality of data, but at the same time does not lead to excessive data requests and overloading of data providers.

The paper will only address the relationship between the accounting information system and accountability in the context of why the sound functioning of the public accounting system is relevant for accountability. Although a properly functioning accounting system that provides an accurate and up-to-date picture and is difficult to manipulate can be seen as a cornerstone of integrity, the focus of the study follows a different line, and does not analyse the contribution of the accounting system to the fight against corruption.

The aim of the paper is to present the major theories of public management, their relationship with the broad economic policy paradigms and the accounting information system, and to illustrate the impact of Government Decree 4/2013 (11.02.2013) on municipal management.

1.3. The hypothesis' of the dissertation

The emergence of accrual accounting in the public sector is often associated by researchers with the new public management, yet it has also appeared in public administrations with very different concepts. At first glance, the rise of accrual accounting over several decades does not seem to depend on time, space or the logic of public management. On this basis, we formulate the following hypothesis on the relationship between accrual accounting and public management theories:

Hypothesis 1: The emergence of the accrual approach in the public sector can be considered relevant regardless of the evolution of the role of the state.

The hypothesis is tested by means of a literature review, in the first and second chapters of the thesis the relationship between accounting practices and public management theories is examined, and to prove the claim, widespread accounting practices are compared with the centralisation of task organisation.

In relation to the introduction of accrual accounting, stakeholders expect the accounting information system to provide a faster and more accurate accounting of economic events that occur, as opposed to the cash accounting approach (Bathó 2012, Jakab-Balog 2017). As a consequence, the legislator expects the accounting regime in place since 2014 to provide an up-to-date and reliable picture. Our assumption is that these features are also perceived and experienced by users of the accounting information system:

Hypothesis 2: The stakeholders perceive that the government accounting system in use as from 2014 is capable of providing a reliable and true picture.

In order to test this hypothesis, both the interview and questionnaire research focused on this issue. The theoretical framework for testing the hypothesis is set out in chapter two, and the decision on the hypothesis is supported by the results of chapter four.

Despite the high degree of reliability attributed to accrual accounting, its data and documents are typically less relied upon for decision making when cash accounting is used in parallel (Carlin 2005). This may be because of the more experience with cash data and because budgeting is cash-based. Based on these assumptions, we have formulated our third hypothesis, which we have also tested using our research mentioned above:

Hypothesis 3: The stakeholders prefer to use cash-based data in their management.

Similarly to hypothesis 2, hypothesis 3 is also tested through a questionnaire survey, the use of accounting data and the usefulness of accrual and cash flow data and their role in management decisions are also investigated.

Akin the neglect of accrual data in decision making, several studies have highlighted the marginal role of accounting information in public sector economic decisions, regardless of the perspective (Prowle 2021). Based on these observations, we formulated our fourth hypothesis, which the questionnaire survey in this paper attempts to verify.

Hypothesis 4: Financial accounting information does not play a decisive role in local governments' management decisions.

As with the previous two hypotheses, the test of hypothesis 4 will be carried out by analysing the experience of the questionnaire survey.

Before starting the study, it was also assumed that the reform affected local authorities with different characteristics in different ways. Given that smaller municipalities (e.g. communes) typically have only a few professionals in charge of finance and accounting, the professionals working there did not have the possibility to specialise in a particular area of accounting, which made it difficult to adapt to the new system and to reap its benefits. Based on this hypothesis, we formulated the fifth hypothesis of the thesis.

Hypothesis 5: There is a positive correlation between satisfaction with the accounting system and the size of the municipalities.

2. Methodology

Hypothesis 1 was tested by reviewing the literature, the relationship between accounting practices and public management theories was examined in the first and second chapters of the thesis, and to verify the claim, the prevalent accounting practices were compared with the centralisation of task organisation. Hypotheses 2, 3 and 4 were tested by questionnaire. Firstly, personal interviews were carried out in the summer of 2019 (where 18 professionals from 8 institutions were available), which also provided the basis for our subsequent questionnaire research. The personal interviews nuanced the results obtained and the validity of the hypotheses was tested through a questionnaire survey with 217 respondents conducted in the summer of 2021. Hypothesis 5 was formulated partly on the basis of the personal interviews and tested using the questionnaire survey (Table 1).

Semi-structured interviews were applied for the personal interviews as they allow for a mix of interviews and other small group interviews (DiCicco-Bloom–Crabtree 2006) and also contribute to the interaction between interviewer and subjects.

The questionnaire consisted mainly of dichotomous and 1-5 Likert-type questions, where a 1 indicates absolute disagreement and a 5 indicates absolute agreement. The questionnaire is divided into three major blocks: the first block is designed to assess opinions on the timeliness, reliability and transparency of the public accounting information system, i.e. whether users of the system experience the benefits that can be expected from the literature. The second section focused on the use and usefulness of accounting information in management, while the third section assessed information on completers and municipalities.

Table 1 Research hypotheses and methodology

Number of hypotheses	Hypothesis	Method of the examination	Variable, method of decision
1.	The emergence of the accrual approach in the public sector can be considered relevant regardless of the evolution of the role of the state.	Literature review	An analysis of the organisation of government in each country, a comparison of the degree of centralisation of functions and the public accounting model used
2.	The stakeholders perceive that the government accounting system in use as from 2014 can provide a reliable and true picture.	Questionnaire survey: descriptive statistics and principal component analysis	Artificial variable, named Actuality and specificity
3.	The stakeholders prefer to use cash-based data in their management.	Questionnaire survey: descriptive statistics and principal component analysis	Role of budgetary accounting and the role of financial accounting; data obtained from budgetary accounting data obtained from financial accounting, responses to the questionnaire survey's 17th question
4.	Financial accounting information does not play a decisive role in local governments' management decisions.	Questionnaire survey: descriptive statistics and principal component analysis	Contribution artificial variable, responses to the questionnaire survey's 6th, 7th, 8th and 9th questions
5.	There is a positive correlation between satisfaction with the accounting system and the size of the municipalities.	Questionnaire survey: rank correlation analysis; Pearson's chi-square test, cross-tabulation analysis, cluster analysis	Rank correlation coefficients; characteristics of clusters.

Source: own construction

3. Theoretical background

The theoretical background of the thesis can be divided into two major parts. On the one hand, the thesis presented the major theories of public management and their relationship with economic policy paradigms, the accounting information system used and each other, and on the other hand, it described the fundamental features of accounting approaches and their advantages and disadvantages. The structure of this thesis book follows this logic.

3.1 Public sector organizing trends – Why are the solutions used by the state changing?

The way and quality of public services are delivered is of great importance, as the state is one of, if not the most important actor in an economy. This makes the way in which public administration is structured and organised a key issue. Citizens or the organisations concerned rightly demand that the public sector should be efficient in creating services or products (Kárpáti 2011). A well-organised public administration can contribute to this. This has led to the emergence of the organisational theories discussed in this chapter, such as new public management (NPM), good governance or good government (also known as the neo-Weberian approach). As we will see in more detail later, at the core of these theories is the motivation to create an effective, efficient, accountable and transparent state, which is also supported by accrual accounting (Tóth 2021a).

In the public sector, innovation is not understood as a product or service, but rather as a change in the relationship between the service provider and the service user (Hartley 2005). Changes in the organisation of the state can also be linked to changes in the relationship between the public and private sectors (Torma 2010). The structure and procedures of the state also reflect its relationship with the private sector, and the organisation of the public sector's tasks has resulted from changes in its relationship with the private sector (Peters – Pierre 1998). Thus, methodological innovations in the public sector (such as the emergence of the management approach, outsourcing, accrual accounting) cannot be completely separated from other events in society. This is supported by the theory that the functioning of public finances is path-dependent, with the range of methods used being influenced by cultural factors, traditions and other circumstances (Meyer-Shaling–Yesilkagit 2011).

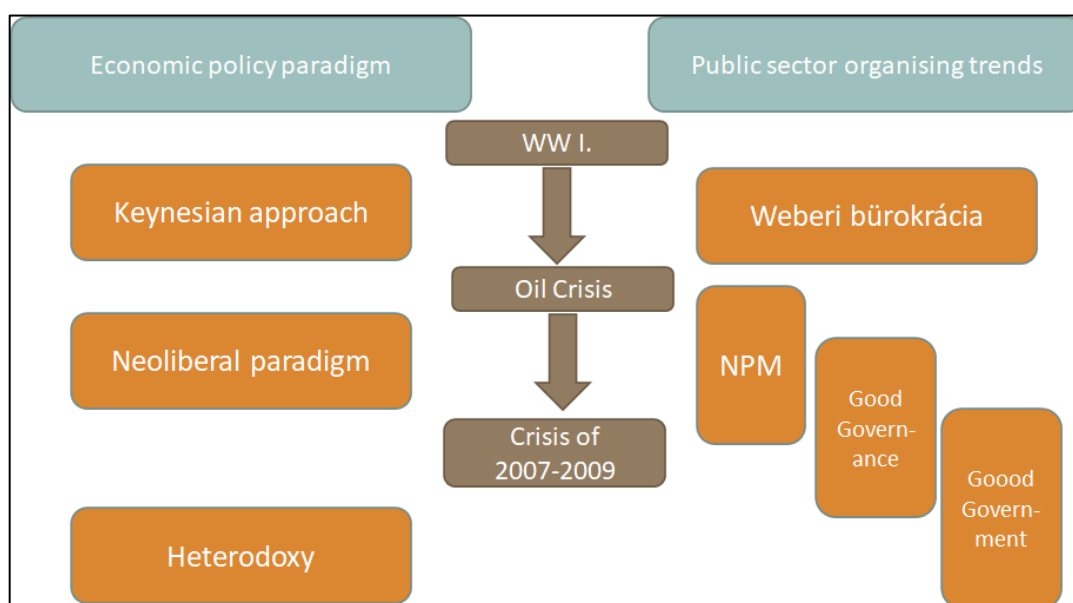
However, in recent decades, new solutions have emerged in many public sectors. In Anglo-Saxon countries, a new public management trend has come to the foreground, replacing the traditional Weberian model. It argues that accountability can be enhanced by transposing private sector practices and management principles and by reducing the differences between

the public and private sectors (Hood 1995). However, the reasons for innovation in public sector reforms are typically different from those in the private sector. In the process of reforming the functioning of the state, there is not only an increased need to realise the benefits that can be achieved, but other external factors may also be at work. The content and timing of individual reforms are influenced by country-specific internal and external factors. In Western Europe, the strengthening of public confidence and macroeconomic problems (large public finances, budget deficits, weak fiscal performance) are seen as the drivers of change (Bouckaert et al. 2011). Wright (1994) also identified the strengthening of international relations and the European integration as factors leading to converging public finance reforms, but also changes in the political and technological environment. He also mentioned the economic paradigm shift as another reason.

The role of the state has been constantly reassessed as a result of economic policy shifts. At the same time, there have been changes in the organisation of the state. The emergence of innovative solutions in the public sector and the 'methodologically oriented' approach to the private sector coincided with the decline of Keynesian economic policy (Figure 1). In other words, the 20th century has seen a co-movement of economic policy cycles and state reform, which makes it worth examining whether there is a direct link or whether it is a coincidence.

Changes in the trends in the functions of the state and in the methods used to operate them cannot be considered completely independent of each other. The definition of the relationship between the State and the market and the assessment of competition play an important role. The decline of the Keynesian paradigm has been accompanied by a loss of faith in the Weberian conception of the state. On both fronts, these changes have been observed mainly in the Anglo-Saxon countries, while in continental Europe (where the Weberian state organisation had a stronger tradition) such changes have not been initiated rapidly. In the peripheral countries of the European Union, the new public management orientation, with its focus on the market and market solutions, has had a significant influence, in which the recommendations of major international organisations have played a major role (Bouckaert et al. 2011, Tóth 2021).

Figure 1 The trends in economic policy paradigms and in public sector organising trends



Source: own construction

The new and newer demands on public administration can be interpreted as a specific pressure and constraint that led to reforms in the organisation of the state. The 3 branches of these reforms are the technical approach, the value- and participation-based approach and the regulatory approach (Torma 2010). Their main features are summarised in Table 2.

The basic premise of the technical approach is that even the most complex social systems can be broken down into simple technical processes. And the nature of the workflows and activities that result from this decomposition do not differ between private and public administrations (Torma 2010). This approach has formed the basis of the new public management. Its axiomatic starting point is that reducing public expenditure and improving the quality of public services can be achieved by increasing market coordination and competition (Rosta 2012).

Table 2 Theoretical models of management reform

Approach	Technical	Value- and participation-based	Regulatory
Related model	New Public Management – NPM	Good Governance	Neo-Weberian approach / Good Government
State	weak state	weak state	strong state
Ideology	priority of market	dominance of NGOs	dominance of state
Role of state	loosely regulates, supervises	coordinates, supervises, organises	controlling, strongly regulating
About democracy	participatory, representative consultation of civil society organisations	participation with broad consultation of civil society organisations	majority representation, direct consultation

Source: own construction based on Torma (2010) and Kovács (2014)

According to the NPM, in previous state institutions, politicians and officials were sometimes allowed to pursue their own interests, resulting in high cost and low-quality community services. This draws attention to the importance of accountability (Hood 1995). The new public management toolkit provides a plausible solution to this problem, which justifies its widespread adoption. NPM emphasises the need to outsource those public functions that can be performed by the private sector, thereby increasing operational efficiency (Lentner 2019).

The central idea of a value and participation-based approach is that public decisions are not the prerogative of bureaucracies, but should be made with the involvement of stakeholders. Unlike the new public management, the model focuses on the civil sphere rather than the business sphere. Decision-making is characterised by a search for compromise and broad social consultation (Kovács 2014). The trend can be traced back to the World Bank's proposals in the 1980s (Pályi 2015), and Fodor and Stumpf (2007) link good governance to neoliberalism.

The decisions associated with this concept seek to ensure the rule of law and strengthen legal certainty. An important element is the guarantee of transparency and accountability, the possibility to criticise decision-makers, the institutionalised development of the expression of civil protests, and, in line with this, the marginalisation of corruption. Stakeholder involvement, transparency and accountability can improve the quality of governance. Within the framework of good governance, the state primarily uses the instruments of regulation, playing more of a mediating role between different social groups, and its allocative and redistributive role is more limited than traditional ones (Kovács 2014).

The regulatory approach emphasises that the state must solve problems through regulation, by modifying old rules or creating new ones. The focus on rule-making involves not simply lawmaking, but also law enforcement and its monitoring. The regulatory approach emphasises the importance of the state and has the potential to steer the behaviour of citizens and organisations in the direction preferred by the state. It can do this through the binding force of the law and the enforcement of sanctions and incentives for non-compliance. The regulatory approach can be seen as the theoretical basis of the neo-Weberian state (Torma 2010).

The concept of the neo-Weberian state is mentioned in the work of Pollitt and Bouckaert (2004). The concept is based on four principles. One is the centrality of the state. An important element is the renewal and application of the rules of public administration, as well as the preservation of public services and representative democracy (Dunn-Miller 2007). The actor of problem-solving is the democratic government, which aims to ensure the common good (Stumpf 2009). One factor that contributed to the rise of state-centered theories was that while in the 1960s and 1980s the effects of globalisation were essentially positive factors, not requiring state correction but rather tending to dismantle the role of the state, by the 1990s factors requiring state intervention were increasingly prevalent (Long 2018).

Although there is a wide divergence in terms of the role of the state in the economy, Pályi (2015) has pointed out that the difference between 'good governance' and 'good government' is not as great as it first appears. In line with this, it can be argued that accrual accounting is no more or less suited to the logic of any of the state management models.

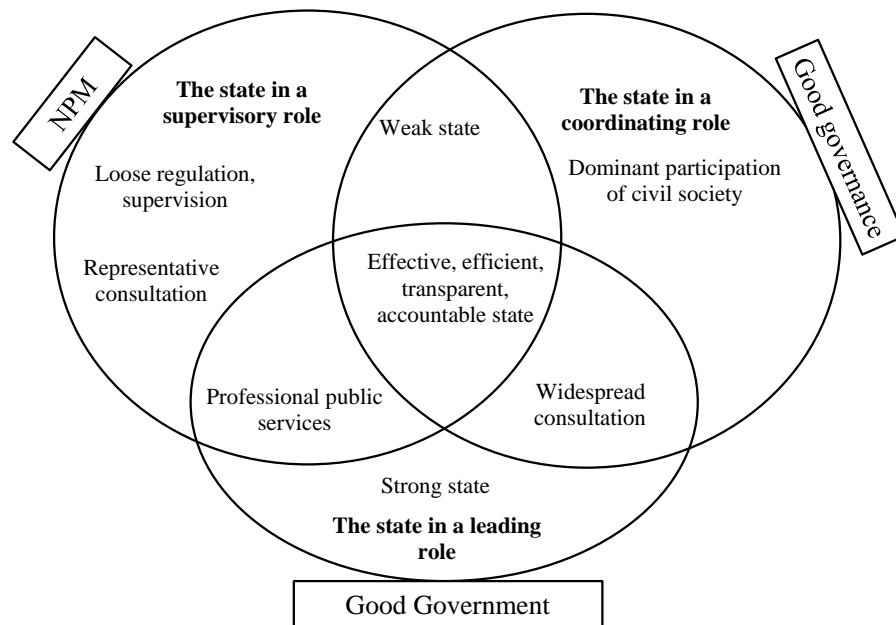
Overlaps can also be observed between the new public management, good governance and the measures promoted by neo-Weberian theories. Transparency, controllability, and accountability of the state are considered important by all approaches, and the methods used are very similar at organisational level. Perhaps the most striking example of this is the emergence of accrual accounting in the public sector, which is supported by all three approaches. This also explains the phenomenon that the emergence of accrual accounting in the

public sector cannot be exclusively linked to the new public management, even though the first adopters of both NPM and accrual accounting were the Anglo-Saxon countries.

So, the difference is the role of the state in the trends under discussion. While the neo-Weberian conception of the state places the state in a leading role, the new public management promotes the dominance of the market, while good governance promotes the dominance of civil society. However, there are several similarities between the neo-Weberian state and the other strands (Figure 2). Both the good government and good governance strands rely on majority consultation to assess and validate the needs of society, and the new public management and good government strands also focus on raising the quality of public services.

As Pongrácz (2016) points out, the size of the state is in fact irrelevant for the fabric of society, as the state always fulfills its social role through its functions according to the needs of the time. For this reason, it is worth examining the expectations that citizens have of the services provided by public administration. It can thus be concluded that theories of public management are linked to economic policy paradigms, and that the degree of regulation expected of the state (shifts towards regulation or deregulation) determines the theory of public management that prevails, alongside other characteristics of society. The co-movement of methodological shifts in state function provision and paradigm shifts in economic policy is not coincidental. The decline in the role of the state has given rise to NPM and then to good governance. In our view, this is emerging in the global context and in the Eastern European experience. And it is along the same link that the neo-Weberian state organisation is gaining ground in parallel with the neo-Keynesian paradigm (Tóth 2021a).

Figure 2 The relation between the theories



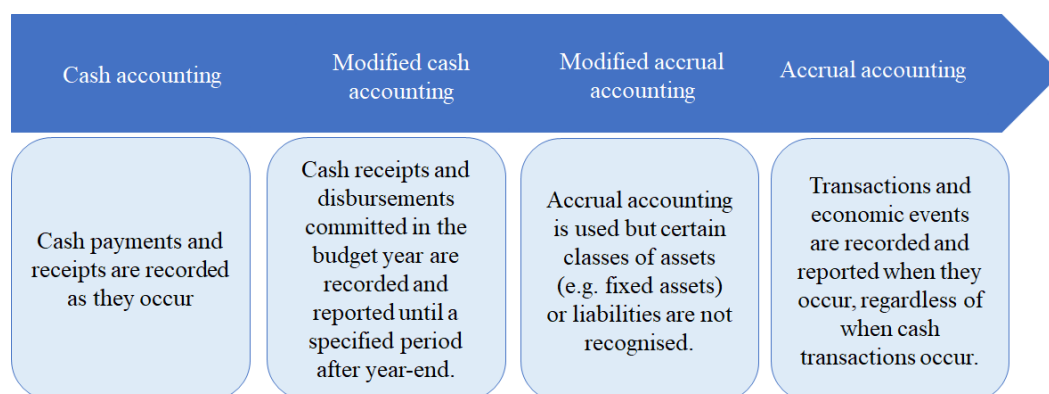
Source: own construction based on Tóth (2021a, p. 218)

3.2 Public sector accounting systems

Two basic models of accounting systems can be distinguished, the cash flow approach and the accrual approach. The cash flow approach captures the effects of economic events at the same time as they occur, while accrual accounting captures the effects of economic events as they occur (Figure 3). The cash flow approach violates several accounting principles, such as the principle of completeness (Simon 2009, 2010).

The pure application of the two basic models is considered to be rather rare, and in practice both the modified cash flow approach and the modified accrual approach are used (van der Hoek 2005). The modified cash flow approach differs from the traditional cash flow approach in that its data can be adjusted by business accounting data, while the modified accrual approach also has a specific accounting for a part of an asset.

Figure 3 The spectrum of government accounting practices



Source: own construction based on PwC (2015, p.10)

There are several pros and cons to the introduction of accrual accounting, which stem from the characteristics of the accounting approaches and the specific situation of the State (Table 3). The accrual approach provides financial information more quickly (Guthrie 1998) and limits the possibility of distortion (Pályi 2015). The advantage of the accrual approach is usually mentioned as the possibility to fully assess costs and evaluate performance (Robinson 1998, Ouda 2003).

Table 3 Advantages and disadvantages of the accrual accounting

Advantages	Disadvantages
Up-to-date information	A more complicated system
More accurate data on the costs, the development of cost accounting	The relevance of profit is questionable
Improvement of tangible asset management	Increase in workload
Transparencyg	Information need different from that of the private sector
Comparability	Efficiency and effectiveness require a different approach
Improvement of internal controls and external audits	
A more accurate picture of the accounts payable and accounts receivable	
Management accounting considerations, more efficient financial management	
Comparability of far-reaching decisions	

Source: own construction based on Tóth (2020, p.247.)

The accrual accounting by recording depreciation as a cost item, the depreciation of fixed assets can be taken into account in the calculation of cost price and, as a consequence, the scope for asset management is broadened (Lentner 2014). Accrual accounting thus supports efficient and effective management. Ultimately, it can also support transparency, accountability, and comparability of financial accounts.

4. Results and theses

Our first hypothesis, that the emergence of the outcome approach in the public sector can be considered relevant, without a strong correlation with models of the role of the state, is confirmed. The expectations of the modern state include efficient, effective, transparent, and accountable operations, regardless of the role of the state in the economy and the strength of its regulatory function. The focus on performance measurement and effectiveness, which is central to all the theories discussed, requires the application of an appropriate accounting system, i.e. the introduction of accrual accounting can be seen as a modernisation imperative, irrespective of the model of state management followed.

In Table 4, we have categorised centralised (red), decentralised (green) and intermediate (orange) states according to Balázs (2015). Categorising them according to the models of public sector function allocation gives a mixed picture, with the emergence of accrual accounting not being a unique feature of decentralised state organisations. This reinforces our conclusion that the emergence of accrual accounting in public sectors is not an achievement of the new public management but a phenomenon that is spreading independently of it.

On this basis, we consider our first hypothesis to be confirmed and formulate the following thesis:

Thesis 1: The emergence of accrual accounting in public finances can also be seen as independent of the logic of public sector operations and the evolving role of the state.

Table 4 Accounting systems for central and local governments
(red: centralised, green: decentralised, orange: medium)

		Central government		
		Modified cash accounting	Accrual accounting	Modified accrual accounting
Local gov.	Modified cash accounting	Luxembourg Italy Slovenia	Austria	
	Accrual accounting	Greece Ireland Germany Portugal Cyprus Netherlands	Bulgaria Czech Republic United Kingdom Estonia France Poland Lithuania Romania Spain Sweden Malta	
	Modified accrual accounting	Finnland		Croatia Latvia Hungary ¹ Slovakia Belgium

Source: own construction based on Lentner et al. (2020) and Balázs (2015)

Further hypotheses were tested based on the responses the questionnaire survey. In the analysis, the dimensional reduction was applied concerning the number of variables, which allows for the examination of questions together while preserving the majority of individual information. Three artificial variables were created from the first four questions of the questionnaire. The first question asked about the exact regulation of the accounting system, and based on the answers to the 4 criteria, a variable called "Definiteness" was created. The explanatory power of the artificial variable is 66.21%, considered adequate, with a stronger than the medium positive correlation with the original variables (Table 4). The variable "Actuality", formed from the answers to the second and third questions, can retain a higher proportion of the information content of the original variables and is also strongly correlated with them. The fourth question examined six aspects of the contribution of the accounting information system

¹ In Balázs (2015) Hungary was classified as a mixed and centralised type of state

to different activities. The principal component formed from the responses was called "Contribution". It retained 68.03% of the information, with the original variables correlating more than moderately strong with the artificial variable. By merging the three artificial variables, a variable called "Overall Satisfaction" was created, which retained 75.5% of the information carried by the artificial variables at level 1.

Table 4 Correlation coefficients and retained information values for artificial variables

Questions	R (1st level)	Artificial variable (1st level)	R (2nd level)	Artificial variable (2nd level))
Question 1: well-defined system				Overall satisfaction (R ² = 75,50%)
1.1. Budgetary accounting	0,888	Definiteness (R ² = 66,21%)	0,843	
1.2. Financial accounting	0,876			
1.3. Accounting according to COFOG	0,727			
1.4. Rules of evaluation	0,751			
Question 2-3: Up-to-date information				
2. Evaluation of claims	0,965	Actuality (R ² = 93,15%)	0,868	
3. Evaluation of liabilities	0,965			
Question 4: Contribution to activities and decisions				
4.1. Register of commitments and obligations	0,799	Contribution (R ² = 68,03%)	0,895	
4.2. Cost price calculation	0,735			
4.4. Regular management	0,829			
4.4. Managerial decision-making	0,854			
4.5. Planning of decrees	0,858			
4.6. Efficient management	0,865			

Source: own editing based on Tóth et al. (2022, p.38)

Table 5 shows that for all three sets of questions, users were generally satisfied with the new accounting system. Both the interview experience and the results of the questionnaire survey confirmed our assumption that the system is sophisticated, well-defined, and gives a punctual and reliable picture of the entities. The experience of the respondents confirms that

the accounting records are up to date, the valuation of the assets is appropriate and the presentation of the economic flows is considered accurate.

Table 5 Descriptive statistics for artificial variables representing the overall perception of the accounting system from different perspectives

Statistics		Definiteness	Actuality	Contribution	Overall Satisfaction
Number of items	Valid	211	213	209	205
	Missing	6	4	8	12
Average		4,09	4,02	3,78	3,98
Median		4,09	4,00	3,86	4,01
Mode		5,00	4,00	5,00	5,00
Deviations		0,71	0,84	0,82	0,66
Skewness		-0,85	-0,63	-0,59	-0,44

Source: own construction based on Tóth et al. (2022, p. 39)

Thus, the second hypothesis is accepted, which leads to the following thesis:

Thesis 2: The accounting system in force from 2014 provides a reliable and fair picture of the operations and assets of local governments.

Both the personal interviews and the experience of the questionnaire survey confirmed the phenomenon observed abroad that as long as cash accounting and accrual accounting operate in parallel, decision-makers prefer the former information. This is mainly due to the lack of accrual accounting traditions. Although the reform has resulted in a forward-looking, modern accounting information system, more time and experience are needed for the positive effects to be fully felt. This is confirmed by Table 6, which shows that budgetary accounting data have a greater role to play in management decisions.

Table 6 Descriptive statistics for artificial variables representing the inclusion of budgetary and financial accounting data

Statistical data		The role of budgetary accounting	The role of financial accounting
Number of items	Valid	208	208
	Missing	9	9
Average		3,79	2,60
Median		3,92	2,53
Mode		5,00	1,00
Deviations		0,91	1,12
Skewness		-0,74	0,30

Source: own construction based on Tóth et al. (2022, p. 41)

This is also consistent with the observation that respondents consider that data from budgetary accounting are more useful than data from accrual-based financial accounting (Table 7).

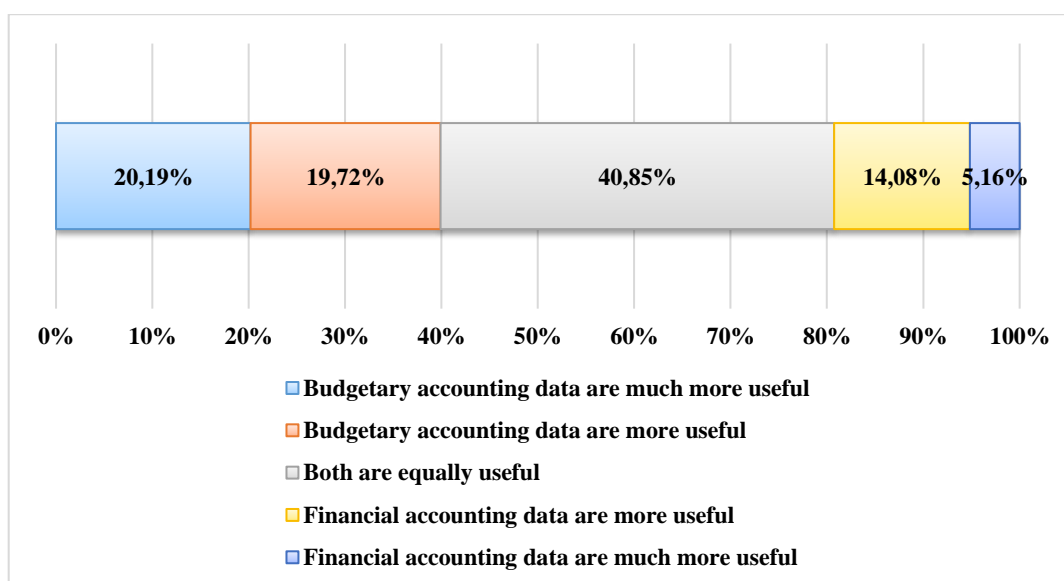
Table 7 Comparing the usefulness of budget and financial accounting information

	Average	Number of items	Deviation	Mode	Median
Data from budgetary accounting	4,31	211	0,848	5	4
Data from financial accounting	3,9	210	1,012	4	4

Source: own construction

The usefulness of the two accounting systems was not only measured through artificial variables, as respondents were also asked to rate which of the two accounting systems they considered to be more useful, budgetary and financial accounting (Figure 4). In line with previous questions, the dominance of budgetary accounting again emerged, with roughly 40% of respondents considering cash accounting more useful, while almost the same number of respondents rated it equally useful. Financial accounting was rated as more useful than budgetary accounting by less than a fifth of respondents.

Figure 4 Assessing the usefulness of budgetary and financial accounting



Source: own construction

Thesis 3: The stakeholders of the system rely more on cash-flow-oriented data in their management.

Our fourth hypothesis, that financial accounting information does not play a significant role in the management decisions of local governments, can be considered confirmed. In the interviews, the subjects could not confirm that accounting information is taken into account by decision-makers, while in the questionnaire survey we observed that accounting information is not typically included in planning processes.

Data from budgetary accounting and related statements were used to inform decisions, but this was less the case for financial accounting data. The following thesis could therefore be formulated:

Thesis 4: Financial accounting information does not yet play a major role in the management decisions of local authorities.

The fifth hypothesis, that there is a positive relationship between satisfaction with the accounting system and the size of the municipalities, was not confirmed. Satisfaction with the accounting information system was not significantly influenced by the work experience of the respondent, the size of his/her municipality and its location (Table 8). While the size of the municipality of the respondent was negatively correlated with the use of financial accounting

data and positively correlated with the use of budgetary accounting data, such low coefficients do not suggest a significant relationship.

Table 8 Rank correlation and measures of association (Eta) for analysis of variance between relevant variables and different demographic factors

	Overall satisfaction	Usefulness of data from budgetary accounting	Usefulness of data from financial accounting	Usage of data from financial accounting	Usage of data from budgetary accounting s
Length of employment of the filler (Spearman)	0,082	0,014	-0,129	-0,118	0,101
Size of the municipality (Spearman)	0,088	0,114	-0,136	-0,190	0,214
NUTS 1 region (Eta)	0,036	0,068	0,031	0,124	0,151

Source: own construction based on Tóth et al. (2022, p. 45)

Thesis 5: The degree of satisfaction with the accounting system is independent of the size of the municipality of the respondent.

Based on the experience and theses, we have formulated recommendations for regulators and local government professionals and decision-makers.

5. Recommendations

Based on the experience and theses, we have formulated recommendations for regulators and local government professionals, and decision-makers. Our recommendations, based on the results of the research, can be divided into two groups, depending on who they are addressed to. Thus we distinguish between proposals for regulators and those for central and local government.

5.1. Recommendations for regulators

Empirical experience has highlighted the fact that accounting has a past-oriented, ex-post role in local government. In our view, this means that local authorities are not yet able to reap the benefits that would result from reform. In line with this, we have also observed that the role of accrual accounting is misinterpreted, its logic being treated by stakeholders as alien to the public sector. The regulatory side (or the central level) may be able to change this by providing relevant information. By this, we mean several things. One possibility could be to collect and widely disseminate good practices, and examples of municipalities with a more developed accounting culture.

Another is to raise awareness of financial accounting data by organising training courses and forums. In addition to the case studies mentioned in the previous option, insights of the academic world could be presented. Alternatively, as pointed out by Borbély et al (2021), the central level could take steps in this direction by proposing indicators, setting standards, and modifying reporting forms. These could be more effective at the operational level by requiring different calculations, but this would not necessarily lead to results. An example is the code of conduct for cost accounting, which is compulsory for local authorities but which in practice does not play the role it could in theory. It is therefore much more important that the central level should influence the attitudes of those concerned, rather than, or in addition to, such mandatory provisions.

We also recommend that the central government should carry out efficiency or comparative analyses based on the available data. Local governments provide data in a timely and abundant manner. This could be used to identify the differences between the operations of individual local authorities and the factors generating these differences. On this basis, more in-depth exploratory studies could be carried out.

We further propose, in line with the suggestions of several studies (Jakab-Balog 2017, Borbély et al. 2021), the adaptation of an accrual-based budgeting approach, mainly because of its theoretical advantages. In our view, this approach would make budget planning more

economic and less technical. Furthermore, the quality of budgeting would be improved, which would contribute to the public sector meet the expectations of society, and could also help to enforce the logic of task-based financing. Such a reform would also allow the benefits of accrual accounting to be better exploited.

5.2 Recommendations for local authorities

We recommend wider use of financial accounting data for local government operators, especially in budget planning. A closely related proposal is that cost accounting should be seen not only as a statutory obligation but also as an activity with economic substance. A more thorough costing will allow the evaluation of the various decision alternatives and the optimisation of the provision of services. In our view, while it is true to say that profit and profitability cannot be the primary concern of the public sector, the importance of better monitoring of costs and more efficient and economic use of resources cannot be disputed. This can be better achieved by knowing the cost price of the tasks performed and the outputs produced.

In our opinion, the quality of municipal management can be greatly improved by improving the management of fixed assets. This can be supported by investment cost-effectiveness calculations and by assessing the impact and sustainability of investments. On the other hand, it is important to monitor the value of assets accurately in order to determine the need for asset replacement. The timely replacement of assets can lead to a higher quality of public services and more predictable operations. It is true that in many cases this can fail due to a lack of resources.

In addition, it is generally recommended to include financial accounting data, even in budget planning. As these data can provide a multi-year forecast, the accuracy of budget planning can be improved. Thus, in our view, accrual-based data must be also incorporated into planning activities.

A significant positive impact could be achieved by bringing strategic thinking to the frontline at the local level and by using tools such as the Balanced Scorecard, as highlighted by Hegedűs et al (2014). However, for this to actually trigger the expected positive impacts, more in-depth integration of results-based information is needed.

Future researches

Given the role of the state and local governments, there is still much new research to be done in this area. The domestic economics literature is rich in studies on the local government subsystem, and the subject of public sector accounting is also considered to be a significant one both domestically and internationally.

It would be advisable to repeat the questionnaire survey after a few (3-5) years. This would help to understand what changes have taken place in the experiences and management practices of the local government subsystem. Such a survey would provide an opportunity to assess which aspects are improving over time and where regulatory and central intervention may be needed. This would allow an assessment to be made of which current failures and shortcomings will be eliminated with practice and experience, and which need to be fine-tuned and corrected. We believe that this approach could be the main thrust of our future research.

A further research direction could be to examine the effects of the introduction of accrual accounting in conjunction with other reforms affecting the local government system. This could also shed a different light on the results of the research presented in this paper, identify factors that hinder the realisation of the expected benefits of the reform, and provide a comprehensive and complex picture of the reform of the domestic sub-system of local government.

In our view, it would also lead to interesting results in terms of the experience of the central level with the sub-system of local government. In particular, to explore, either through interviews or other qualitative research, what analyses and decisions are based on the data provided by the local government subsystem. For if these data are valid at the central level, accrual accounting can still play a role in supporting the efficiency and effectiveness of the state, even if it is not directly applied in municipal decision-making. For this reason, such a study could complement the results of this thesis.

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