

# *Accrual Accounting – an Untapped Opportunity to Measure the Performance of Budgetary Bodies*

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## SUMMARY

Hungary's public accounting system underwent a significant reform in 2014. The reform meant not only a change in accounting, but also a new opportunity to support sustainable financial management and the measurement of organizational performance. In order to gather practical experience, a research was carried out by the State Audit Office of Hungary. In the areas selected during the research, based on the results of the survey, accrual-based accounting was only partially integrated into the accounting profit and return calculations of individual activities, and, especially in the case of smaller organizations, it did not exceed the mandatory, administrative role stipulated by law. Accrual-based accounting typically did not support the measurement of organizational performance. Further development can be carried out in terms of increasing the role of governing bodies in order to achieve target-setting, measurement and reporting along the same principles, as well as raising awareness. Moreover, in order to support organizational performance measurement, it may be necessary to develop a sectoral system of task and performance indicators, for which accrual-based accounting can become an important source of information.

**KEYWORDS:** accrual-based accounting, organizational performance measurement, sustainable financial management, public sector, research

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Hungary's public accounting system underwent a significant reform in 2014: budgetary accounting was separated from financial accounting, and a business management approach appeared in it, in addition to existing budgetary aspects. The two accounting systems are operated in parallel. This renewal was undoubtedly necessary, as the emphasis on accountability, sustainable financial management and performance has made accrual-based accounting essential in public finances as well. Accounting practices relevant to the public sector, together with the special features arising from its operation, have clearly got closer to the practices used in the business sector.

The public accounting systems applied before 2014 had not supported sustainable financial management, as they had not provided sufficient and reliable information on the financial and asset situation of general government organizations (Pályi, 2015). The implementation of the reform was also encouraged by Directive 2011/85/EU of the Council of the European Union on requirements for budgetary frameworks of the Member States (Directive), which had been designed to strengthen economic governance at EU level. The final provisions stipulated: Member States shall bring into force the provisions necessary to comply with this Directive by 31 December 2013.

In order to comply with the Directive, the legislation on the regulation of public finances has been amended, as well as Government Decree No. 4/2013. (I. 11.) on the Accounting of Public Finances (hereinafter: Decree on Public Accounting) has been enacted, containing Hungarian public accounting rules since its entry into force on 1 January 2014. The development of accrual accounting in Hungary was further facilitated by the implementation of the accrual approach across the EU as a result of

the adoption of the said Directive, gradually introduced in different areas (Simon et al., 2018).

Standards represent the non-legislative pillar of making accounting rules. The International Public Sector Accounting Standards (IPSAS) constitute a recognized system of standards applied in the field of public sector accounting. The Member States are not required to uniformly apply IPSAS. As a unique feature, the number of standards is constantly increasing, and they are under constant review. The IPSAS standards are based on the IAS/IFRS standards that are widely used in the private sector, but IPSAS are intended to meet the requirements of the public sector (Harsányi et al., 2016). The development and application of the *European Public Sector Accounting Standards* (EPSAS) would support the development of unified public accounting rules as a goal to be achieved, however, there is a great deal of uncertainty surrounding EPSAS, and there are many questions regarding its adaptation by the Member States (Simon, Pető, 2020).

Since the introduction of the accounting reform in 2014, 2021 will be the eighth fiscal year, therefore it is now possible to review the practical experiences. In 2019 a non-representative survey of local governments and their institutions was conducted, revealing that in practice the data of the accounting information system have been hardly used for economic decisions. The benefits and potentials of the accrual approach have been exploited neither in asset management, nor in cost accounting or calculating cost prices (Tóth, 2020). The research presented in this study specifically focuses on the utilization of the accrual approach, thus gathering experiences that can facilitate the further development of public finance accounting.

## THE CHARACTERISTICS OF CASH ACCOUNTING AND ACCRUAL ACCOUNTING

### Deficiencies of cash accounting

When the cash approach is used, only such transactions are recorded in the accounting systems where some actual cash flow takes place, with the relevant transactions actually executed, and money is received into, or withdrawn from, the accounts of units concerned. No records are available to determine the purposes of money spent (Simon, 2011). Cash accounting records provide full information on economic events only relevant to the present, when transactions are being financially settled; but the processes taking place before them have no significance and values for future financial settlements cannot be forecast. Such records fail to include any material information on receivables and liabilities that would be required for future decision-making (Lentner, 2019).

The records kept solely by using the cash accounting approach fail to provide sufficient information to management about the amount and composition of funds actually required to provide specific public services.

Due to the deficiencies listed above, the actual annual performance of a given unit is not reflected in the reports prepared based on cash accounting data, therefore it is not possible to measure or check such performance. This approach cannot support accountability as it fails to provide information on key factors such as relationships between financial situation and income situation (Lentner, 2019).

There is a concept in cash accounting called residue. Article 1(17) of Act CXCV of 2011 on

Public Finances (hereinafter: Public Finances Act) defines residue as the difference between revenues and expenditures during a financial year. Therefore, if expenditures are less than the amount of revenues generated, then some residue is created up to the remaining amount. Creating residues is a natural part of the cash accounting approach. Budget management uses a one-year period both for preparing a basic budget and for reporting on the implementation thereof, i.e. when preparing the final accounts.

However, in the context of budget management, there are economic events that affect several financial years, or it may happen, for various reasons, that some planned revenue or expenditure items are not realized within a given financial year. In terms of cash accounting, this is a saving because the relevant amount has not been spent.

In economic terms, however, having the accrual approach in mind, we cannot speak of any savings if a commitment has already been made for an appropriation but the relevant payment has not yet been made (Pulay, Simon, Szilas, 2017).

Among the categories of organizational performance measurement, cash accounting partially supports the measurement of economic efficiency, as its tools can be used to compare results with money spent, but it fails to calculate the amount of total resources used. Due to this shortcoming, the measurement of efficiency is not possible in cash accounting. At the same time, the need to measure economic efficiency is called into question by the fact that public sector actors essentially use the envelope budgeting method. Each organization concerned will use a pre-determined appropriation in a financial year, during which saving – as a consideration – is given secondary

importance, and regulations on the use of residue are such that the priority goal will be to spend the existing envelope in full.

### Arguments for the accrual accounting approach

In accrual accounting, economic events are recorded at the time when they occur, regardless of their financial settlement, so this accounting method provides a more reliable picture of the actual economic performance of public sector actors in a given year. The use of accrual-based financial accounting serves both better transparency of financial statements and the aspects of accountability (Domokos, 2019).

In cash accounting, the word ‘expense’ (and its content) is used, which essentially means the spending of available funds. Accrual accounting, on the other hand, uses the concepts of ‘cost’ and ‘expenditure’. The former term represents the monetary value of resources used; the latter one means the cost of assets sold during a given period, and the amount of costs incurred independently of sales, and that of expenditures accounted for by reducing the profit. The availability of information on the full range of costs and expenses used for each activity can improve the planning of funds required to provide services, thus supporting long-term sustainable operations.

Accrual accounting focuses on the results produced. Its primary purpose is to measure economic performance, including not only financial results but also results in terms of revenues and assets. For determining results, it shows the effect of transactions on financial results, revenues, and assets concurrently, while preventing the utilization of the timing of transactions, i.e. the influencing of results by the timing of financial settlement (Simon,

2011). Having access to information that provides a reliable and realistic picture, decision-makers can see things more clearly, which can ultimately lead to a more efficient use of community resources (Pályi, 2015).

As to measuring organizational performance, accrual accounting supports the measurement of efficiency. Accrual accounting can be used to show figures for performance and results achieved by an organization using resources available to it. The benefits of accrual accounting are summarized below:

- ▶ The financial situation is presented, providing useful information about the amount of assets used up, and the need to replace assets.

- ▶ Economic events are recorded when they occur, independently of any relevant financial settlement, thus, liquidity can be planned and managed (Bathó, 2012).

- ▶ Records kept about the financial situation can help allocating funds appropriately, while supporting investment decisions (Bathó, 2012).

- ▶ In accrual accounting, the real amount of funds needed for a given activity is shown by presenting any assets replaced.

- ▶ Accrual accounting allows for stricter accounting, as organizations are required to report not only on cash flows, but also on all resources used and changes in assets (Bathó, 2012).

- ▶ Accrual accounting is less manipulative, as it does not depend on any financial settlement.

- ▶ Data supply and reporting is faster and more accurate, and events are easier to keep under control. Accrual accounting allows for comparisons to be made between results of various periods and measuring performances (Bathó, 2012).

- ▶ Reports prepared by using properly developed accrual accounting records will provide a more complete picture of operations (Bathó, 2012).

►Based on such records, more accurate short- and long-term forecasts can be prepared, which supports controllability, serves the operation of controlling systems, and makes their operation traceable (Bathó, 2012).

►As activities are presented separately – when recognising costs and revenues –, and as the situation in terms of assets and financial standing is described accurately, accrual accounting allows for more effective management and decision-making.

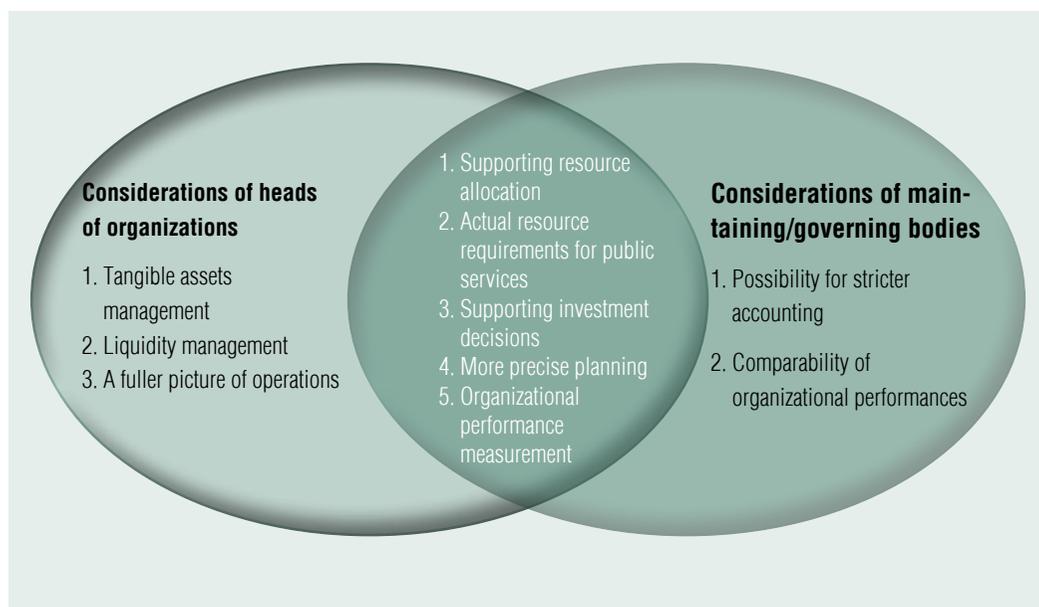
The benefits listed above can also be grouped according to the considerations of the heads of organizations and of the maintaining/governing bodies.

The benefits of accrual accounting for heads of organizations and maintaining/governing bodies of organizations are shown in *Figure 1*.

The utilization of information extracted from the accounting systems can be interpreted on several levels. The starting point is represented by legal and other obligations for organizations to produce certain information: this is the administrative level. At the administrative level, public sector actors are essentially forced to produce information, for example in the form of a budget report or an interim balance sheet report. Beyond the administrative level, organizations have the opportunity to use accounting information to support their operations through calculations. These activities are no longer strictly defined by law, and are tailored to management information needs. This is also true to the highest level, where calculations are integrated in processes to support management decisions, for the sake of long-term, balanced operations.

*Figure 1*

**THE BENEFITS OF ACCRUAL ACCOUNTING FOR HEADS OF ORGANIZATIONS AND MAINTAINING/GOVERNING BODIES OF ORGANIZATIONS**



Source: self-edited

The levels of utilising the benefits of accrual accounting are illustrated in *Figure 2*. The levels listed above can also be adapted to the functioning of the public sector. Data required by law and by governing bodies specify statements to be compiled at the administrative level. Organizations concerned will present their assets, and changes in their assets year on year; measure the value of resources used, i.e. costs; and recognize their revenues and expenditures in accrual accounting terms. They will also show their receivables and liabilities and use valuation rules specific to the accrual approach (for example, impairment). The administrative level is limited to the presentation of data.

However, at the level of operational processes, an organization will go beyond reporting merely, as customary to the administrative level. It will use the available accounting data to analyse internal operations and evaluate certain operational processes. It will no longer merely keep records of its

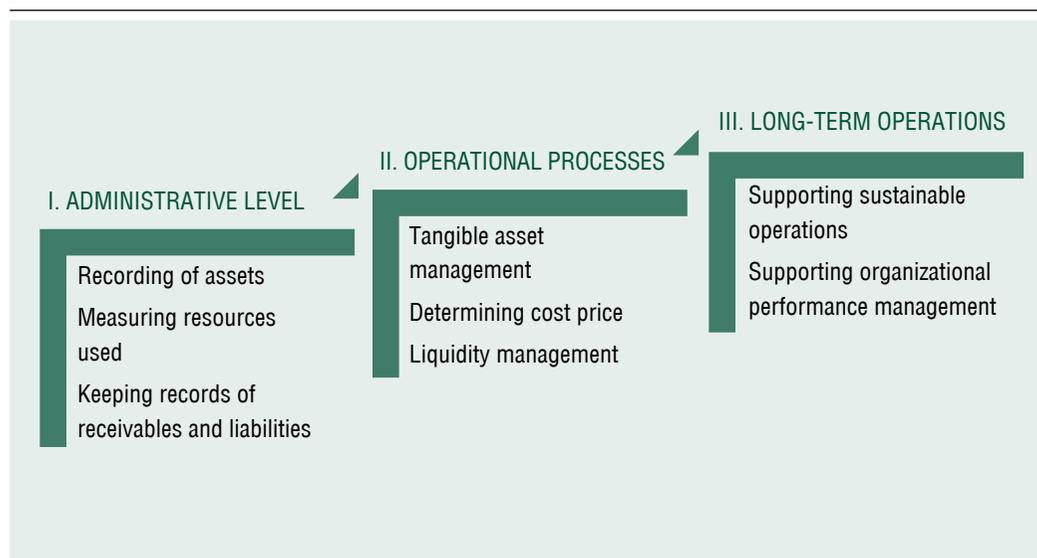
assets, but measure the utilization rate and condition thereof. It will also use costs-related accounting records for determining cost prices and carrying out any pricing tasks; and it will take into account receivables and liabilities for liquidity management purposes.

Accrual accounting information can also be used in the long-term operation of an organization. For the public sector, this does not mean growth or profitability, but the measurement of sustainable operation and of organizational performance. Here, accrual accounting information and calculations are integrated into planning processes, and they also become part of measuring and control processes. When measuring the performance of its activities, an organization may use a wide range of tools, using efficiency criteria in the evaluation of its operations.

Overall, using the above-listed benefits of accrual accounting, the quality of service provision can also be better assessed. The individual benefits of the accrual approach may

*Figure 2*

### LEVELS OF UTILISING THE BENEFITS OF ACCRUAL ACCOUNTING



Source: self-edited

together be utilized also at the level of public finances through the development of financing arrangements and an optimal organization of tasks, and the allocation of resources.

## ADMINISTRATIVE LEVEL

### Recording of assets

One of the most important advantages of accrual accounting over cash accounting is the recording of assets and the presentation of changes thereof. In the public sector, this is typically presented in the balance sheet and in the supplementary notes to financial statements. The Decree on Public Accounting sets out the elements of the balance sheet, its breakdown, the content of detailed records, the structure and content of the supplementary notes, the rules for valuation, and, in particular, the rules for depreciation and cost accounting. In terms of substantive issues, public sector actors are subject to the same rules as actors in the business sector, under which they need to create specific rules for themselves. In several respects, Hungarian regulations do not allow for discretion in accounting (for example, depreciation rates are stipulated for recognising depreciation; the exchange rate of the Magyar Nemzeti Bank is obligatory to be used when valuing foreign currency assets or liabilities; certain categories are defined for the valuation of receivables from continuously operating debtors, etc.). Although this circumstance supports controllability, it does not take into account the specifics of operations, so the picture formed of financial management may be distorted.

### Measuring the resources used

The method of presenting and accounting for costs is also described in the Decree

on Public Accounting. As part of the end-of-year procedures, balances in accounts of the various types of costs are transferred into specified expenditure accounts, which are also shown – through the income statement – in the financial statements. The Decree requires relevant organizations to provide a breakdown of their types of costs to an accuracy of two digits, but gives a great deal of freedom in terms of secondary cost accounting. Secondary cost accounting – i.e. using account classes such as ‘6 Cost centres, overheads’ or ‘7 Costs of activities’ – can be flexibly adapted to the needs of the management. An accurate recognition of overheads (which cannot be directly attributed to any activities and must be allocated as a ratio of some basis; such as cleaning or maintenance) and direct costs will improve the quality of cost price calculations, contributing to break-even calculations and to management decision-making.

### Keeping records of receivables and liabilities

The Decree on Public Accounting requires the recording and presentation of receivables and liabilities in both approaches. Budgetary accounting forms show values for contracts, agreements and other commitments (such as public procurement tenders, which are long-term liabilities), in a breakdown by due dates within one year and over one year; and wages, salaries and supplier invoices are typically accounted for as final commitments, also in a breakdown by due date. The latter ones also appear in the balance sheet form, which reflects the accrual approach. Receivables can be found in both budgetary and financial accounting forms. The Government Decree also provides for valuation rules, including the recognition of impairment and exchange rate differences.

## THE LEVEL OF OPERATIONAL PROCESSES

### Tangible asset management

Tangible assets can be managed, as the financial situation is presented, providing information on assets used up, and on any potential need for and justification of replacing assets. As part of this process, the organizations must take into account the criteria of effectiveness and efficiency to examine whether it is justified to use the same assets to replace some existing ones or whether there is a possibility for improvement in the performance of the organization. However, public sector assets, in particular some fixed assets (such as real estate) are valued in a manner that differs significantly from valuation in the private sector. Although the Decree on Public Accounting allows assets to be valued at market value, it should be noted that there are many assets in public finances that cannot be utilized or sold in the same way as in the private sector, and they are often not available for sale at all, thus they are non-marketable. Based on the above, a market-based valuation approach has limited applicability here. Nevertheless, the recording and reporting of assets and their presentation in financial statements are important pillars of transparent operations, as such assets represent public property, and therefore their traceability is a legitimate social expectation.

### Determining the cost price

According to effective public accounting regulations, internal regulations governing cost price calculation systems must be prepared for any goods sold or services provided on a regular basis. However, there are certain sub-areas and sub-activities in the operation of public sector organizations

that can be provided either by using their own (internal) resources, or external ones. Typically, such areas are the individual units of operations (e.g., maintenance, cleaning). Cost price calculations can support organizations in deciding whether some sub-activities are more economical to carry out by relying on their own resources or by using external ones.

Public sector organizations often carry out several activities, and many times they produce products or provide services. In addition to providing their basic professional services, organizations in the general government sector may also engage in voluntary business activities. Managers concerned may decide to carry out voluntary activities after the preparation of cost- and expenditure estimates, providing more details beyond mere expenses.

### Liquidity management

Keeping records of assets, including financial assets, allows for managers to obtain immediate information about the financial condition of the specific organizations. As receivables and liabilities are valued (for example, impairments are made, or items arising from exchange rate differences are recognised), thus the expected financing needs can be planned and managed more precisely. It can therefore be stated that the accounting system created as a result of the public finance accounting reform places great emphasis on meeting needs for information to support liquidity management.

## LONG-TERM OPERATIONS

### Supporting sustainable operations

Completely different decision-making situations occur in pricing situations connected to mandatory services or to any other not-

for-profit activities carried out to facilitate some basic professional services or for-profit services. We need to be aware that providing public services is a mandatory task even after their costs have been determined; however, public interest here is served by sustainable, efficient and transparent operations instead of profitability in accounting terms or profit-making. In accrual accounting, calculations of operational effectiveness allow organizations to plan their budgets more accurately, to make calculations by completing them with areas not explored by cash accounting (depreciation), and to carry out more economical operation in overall terms. In this way, the funds required for providing public services can be determined more precisely than by relying only on cash accounting data.

### Supporting organizational performance management

For an organization established to provide unique professional services in the public sector, organizational performance itself must first be defined, using performance models of public administration as a starting point. The performance of such an organization is indicated by the efficiency, effectiveness, quality and efficacy of all processes and tasks carried out to accomplish its mission by using human and other resources. When mapping factors that affect the performance of such an organization, it is necessary to review all the processes that determine its operation; to that end, indicators can be defined in order to make all necessary information available for management decisions. In this way, the indicators of organizational performance can also contribute to the management of organizational performance, and decisions can be made that can also have an impact on strategic management (Domokos-Weltherné, 2020).

Good examples for the designation of performance indicators can be seen in Sweden and Finland, where not only accrual accounting reports but also accrual-based budgets are prepared, to which performance indicators are assigned. In Sweden, regulations are almost entirely in line with IPSAS (Kézdi, 2016).

A key tool for measuring organizational performance is the accounting system. Through its application measurements can be performed by assigning them to indicators in order to make information available as necessary for the implementation of the principle of efficiency in management decision-making. The tools of accrual accounting can be used to assess results achieved by an organization (i.e. its performance) along the aspects of operational effectiveness, and to quantify the living labour and dead labour requirements for each activity. Using basic information in its accounting records, an organization can perform post-calculations when calculating cost prices, also as part of giving account of its performance. Furthermore, the accrual approach plays a major role in measuring economic performance, as it values an organization's assets, takes into account the expected settlement of receivables (impairment), provides an opportunity for market valuations, and accounts for depreciation (Sinkovics, 2019).

An analysis of performance measurement in the public sector in Hungary, published by the State Audit Office in 2020, revealed that although a definition of social goals to be achieved (together with the necessary tools assigned to attain such goals) was included in a significant number of the national and sectoral strategies examined by the analysis, yet these strategies failed to provide a measurable, quantifiable and scheduled system of targets for implementing those goals. The analysis points out that the inappropriate definition of targets makes it impossible to measure social impacts, a fact deserving due attention

in the case of public services, and that the conditions for supporting performance measurement through accounting are not fully met (Németh, Szikszainé, 2020). Accounting systems represent an important source of data and analytical potential for measuring performance. However, accrual accounting cannot support the measuring of the implementation of strategies as long as measurable and quantifiable target systems are not developed.

## THE SIGNIFICANCE OF CONTROLLING SYSTEMS AND MANAGEMENT ACCOUNTING

The public sector organizations that provide important public services for society have limited resources and capacities, and they need to manage them prudently. Another aspect of public services is that the taxpayers wish to have an insight into the use of money they have paid, therefore accounting should serve the purpose of transparency as well. An appropriately sophisticated controlling system is essential both for financial management and transparent operations (Sinkovics, 2019).

A controlling system cannot function without an accounting system, which is an indispensable information base for planning, control, and deviation analysis. Controlling performs a management support function, and it is related to the achievement of operational and long-term (strategic) goals and processes discussed when the utilization of accounting was presented. For example, it is sufficient to consider the separation of the individual activities, as accounting should be able to provide information on costs, expenses and revenues to controlling and thus to management, so as to ensure that mandatory and non-mandatory activities can be separated. Importantly, controllers – who are not to be

viewed as internal auditors – are not merely responsible for supplying data, but also for conducting investigations and evaluations, and providing information to managers.

Closely linked to an organization's *controlling* system, management accounting mainly covers areas such as accounting for cost types, cost management, cost price calculations and economic calculations. The basic purpose of management accounting is to support managers and focus on future economic processes (Sinkovics, 2019). The controlling systems, based on the data of the accounting information systems, inform managers about the actual standing of an organization in comparison to a pre-defined budget, and can reveal possible points for intervention. Thus, a controller performs comparisons as to plans versus facts, carries out deviation analyses, and has the opportunity to do in-process controls, by assessing any deviations found. To do all this, accurate and reliable data from an accounting information base are required.

Ensuring the uniformity of the controlling systems and the standard format of reports will contribute to the comparability of organizations (Sinkovics, 2019). This statement is relevant also to the public sector as certain public services are provided through a number of organizations, and the application of uniform assessment methods will allow for comparative measurements of services by organizations pursuing identical activities.

## PRESENTATION OF THE RESEARCH EFFORTS

### Objectives and methods

The research was conducted in order to gather experiences relevant to the practical implementation of the public finance accounting reform which may shed light on the

successfulness thereof and help us evaluate the progress made in the utilisation of accrual accounting at the levels discussed above (administrative, operational, long-term). The practical experiences presented in the analysis come from a questionnaire survey.

The questionnaires were completed in December 2020 and January 2021, thus the organizations participating in the survey had already gathered sufficient experience as, at the time of the questionnaire survey, six years had already passed since the entry into force of the Decree on Public Accounting. The questionnaire consisted of a total of 17 questions, and responses were given on a voluntary basis. The answers to all questions were pre-determined, with seven questions offering the additional option for organizations completing the questionnaire to provide their individual answers as well. Of the 17 questions, 10 questions allowed only one answer, and seven questions allowed multiple answers to be given. The responses considered particularly interesting and noteworthy are presented in the *annex* at the end of the study, in addition to the following evaluation.

The population constituting the basis for selection was made up by organizations falling within the category of ‘910 200 museum activities’ and ‘853 200 vocational secondary education’ in the general government sector. As stipulated in their individual deeds of foundation, the members of both groups of organizations can also perform business activities, with operations typically involving the provision of services for a price/fee/reimbursement, which requires cost price calculations to be performed, and assumes other possibilities for the utilization of the accrual approach. A total of 80 organizations were selected to complete the questionnaire, using a simple random method, with 40 organizations chosen from each group. Due

to the selection method, the research was unable to represent the whole lot of public finance organizations. The questionnaire was completed by 78.8 percent of the selected organizations.

The organizations completing the questionnaire were divided into two groups according to size:

- small organizations: the average statistical headcount is less than 100 persons with a budget expenditure of less than HUF 500,000,000;
- large organizations: the average statistical headcount is minimum 100 persons with a budget expenditure of minimum HUF 500,000,000.

The criterion of an average statistical headcount of 100 is in line with the requirements laid down in relation to economic organizations in Article 10(4a) of the Public Finances Act. The budgetary bodies having a business organization can set up their own accounting systems within the framework set by legislation and governing bodies, in contrast to institutions which use other organizations to provide these services. Of the 63 responding organizations, 65.1 percent were classified as large (41 organizations) and 34.9 percent as small (22 organizations).

The questionnaire focused on three main areas:

- the practice of general ledger accounting and calculating cost prices,
- controlling processes,
- providing foundations for decision-making.

In addition to the above, the questionnaire included questions about circumstances hindering or impeding the use of accrual-based accounting, as well as about planned improvements of accounting systems applied by the respondents, and the objectives of such improvements.

## Evaluation of practical experiences

### *The practice of general ledger accounting and calculating cost prices*

The responding small organizations did not use Account Class 6 to account for overheads at all, in contrast to large organizations, as more than half of them used it to account for, and record, at least part of the costs to be allocated. Consequently, the practice of revising bases for allocating overheads was reasonably more characteristic of the large organizations.

The majority of all respondents used Account Class 7 in financial accounting to recognise costs to be directly recognised for activities, and a third of them used a single account number within this account class to record all costs. No significant difference was found between the results of organizations in terms of their sizes.

As to the frequency of applying interim and post-calculations, no significant difference was found between the results of organizations in terms of their sizes, while pre-calculations were used significantly more often by the responding large institutions compared to small ones. This is explained by their diverse, often production-related activities, which require more complex calculations. The practice of segregating revenues – just like that of accounting for overheads – was more commonly used by large organizations, allowing them to potentially make calculations of return.

When making post-calculations, the responding organizations mainly used accounting entries in their cost and revenue accounting account numbers for reconciliation and verification purposes. As part of cost price calculations, typically the large organizations performed their reconciliation and control tasks by using reports on organizational units, activities, envelope managers, or other dimensions. A quarter of the respondents performed cost price calculations by

keeping some system(s), or separate records, independent of their accounting systems; however, they used their accounting data for reconciliation and verification purposes. In this regard, no significant differences were found according to the size of organizations.

### *Controlling processes*

The survey covered the relationship between accrual accounting information and the main functions of controlling. The respondents used accrual accounting data mostly when planning costs and/or revenues, followed by comparisons between planned and fact figures and deviation analyses. Significantly fewer respondents used accrual accounting data for making break-even calculations for their activities. As for planning processes, mainly the small organizations utilized such data; for making break-even calculations, mainly the large organizations utilized them; and in terms of deviation analysis, no material differences were found according to the size of organizations.

A significant number of respondents used a single unit and a single system to perform controlling and accounting tasks, so the two sets of tasks were not separated organizationally, regardless of the size of organization. In most cases, where they were separated, the responding organizations reconciled the data stored in the two systems at least on a case-by-case basis.

### *Profit and break-even calculations*

The relationship between determining the accounting profit for individual activities and accrual accounting was closely linked to the volume and complexity of the services provided by the respondents. More than one third of the responding organizations monitored profits on their activities exclusively by means of the cash accounting approach (revenues-expenditures). Most of the large organizations

determined profits on their activities on a regular basis, at least annually, by using accrual accounting; meanwhile, most of the small organizations used cash-based reporting as already mentioned above.

The tools of the accrual approach are particularly important for activities that require cost price calculations, and possibly activities carried out for profit. One-seventh of the respondents did not engage in such activities, and more than one-third of those who did failed to perform calculations using the accrual approach.

The frequency of profitability calculations among organizations providing services for a price/fee/reimbursement is shown in *Figure 3*.

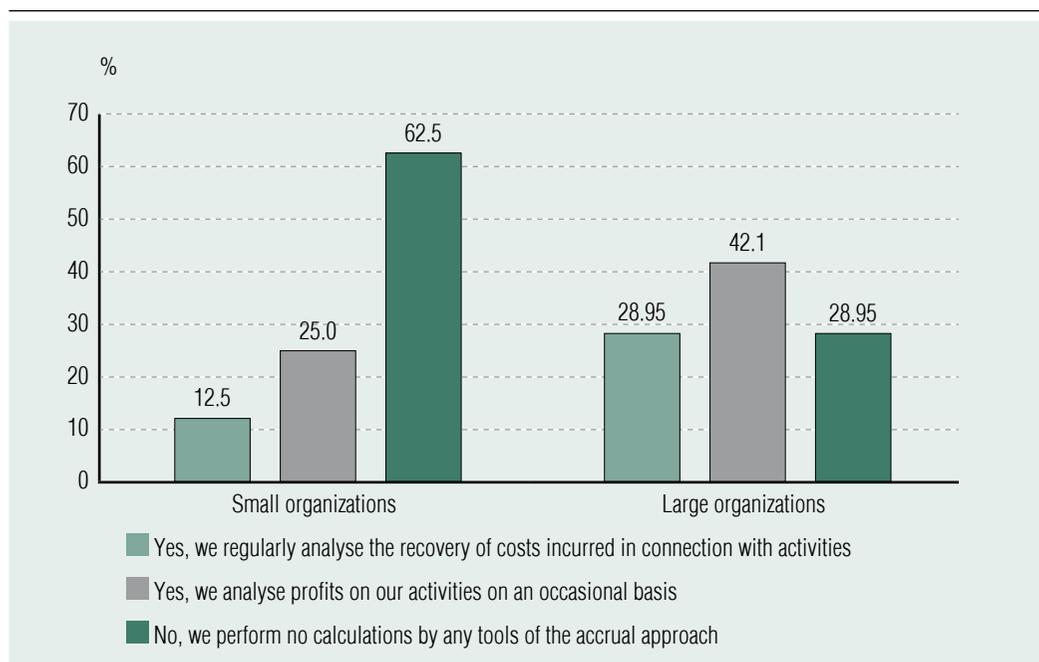
Nearly three-quarters of the large organizations (having more complex operations and often engaged in production or service

activities as well) analysed return on costs incurred, at least on an occasional basis. The same proportion was 37.5 percent for small organizations. In addition, more than a quarter (28.95 per cent) of the large organizations providing services for a price/fee/reimbursement made regular profitability calculations.

The results of this survey suggest that accrual accounting was only partially integrated into the calculation of accounting profits on individual activities and the analysis of return. Accrual accounting information was used often on an occasional basis, even among large organizations. Most of the small organizations failed, even on an occasional basis, to use tools of the accrual approach for calculating return on individual activities, even if they provided such services.

*Figure 3*

**THE FREQUENCY OF PROFITABILITY CALCULATIONS AMONG ORGANIZATIONS PROVIDING SERVICES FOR A PRICE/FEE/REIMBURSEMENT**



Source: self-edited, based on questionnaire survey

*Providing foundations for decision-making*

Almost half of the responding organizations only used reports reflecting the cash accounting approach for their decisions. It is worth examining the answers given by the organizations providing services for a price/fee/reimbursement, i.e. where cost price, profit and break-even calculations are of particular importance.

The frequency of using accrual-based reports among organizations providing services for a price/fee/reimbursement is shown in *Figure 4*.

The results obtained are mostly in line with those found in profitability calculations. Most of the organizations that performed profitability calculations used them in their decision-making processes. A change in this was more pronounced only among

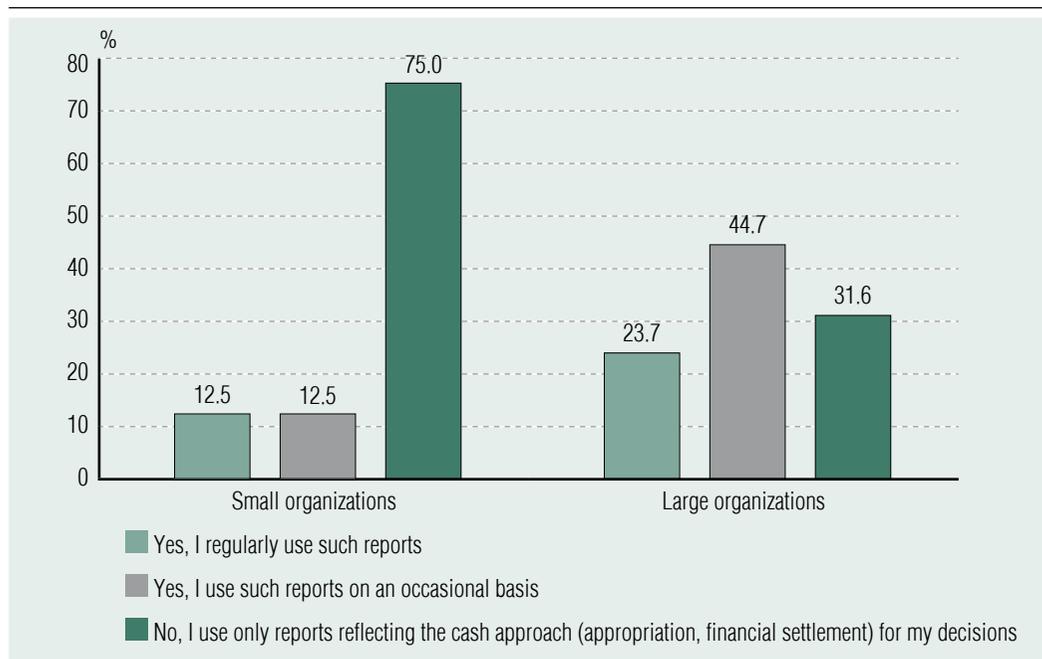
small organizations, as three-quarters of the respondents failed to utilise the accrual approach for supporting decision-making processes, in contrast to what was found for profitability calculations (62.5 per cent).

The survey suggests that the data available in accrual accounting were mostly used by respondents for planning-related decisions, regardless of their size. This was followed by decisions connected to non-mandatory services provided for a price/fee/reimbursement. For measuring the performance of an organization or an organizational unit, however, only a low proportion of respondents used accrual accounting data, and all of the small organizations decided against this option.

The survey suggests that management decisions continued to be made based on,

*Figure 4*

**THE FREQUENCY OF USING ACCRUAL-BASED REPORTS AMONG ORGANIZATIONS PROVIDING SERVICES FOR A PRICE/FEE/REIMBURSEMENT**



Source: self-edited, based on questionnaire survey

and supported by, cash accounting data. The dominance of the cash accounting approach was significant among the small organizations, as opposed to large organizations, which showed a balanced picture in this respect. Based on the narrative responses and views, profitability is not the determining factor for the operation of budgetary bodies in the public sector; the focus of management decisions is on providing services which, according to the respondents, does not justify the application of accrual accounting. The narrative responses typically linked the accrual approach to for-profit activities, and not to an efficient and effective use of public money, and therefore they did not consider its application justified. As such, the narrative responses indicate a need to support awareness-raising.

#### *Factors hindering the utilisation of the accrual approach*

The research also tried to identify any obstacles to using the accrual approach. According to the most common response planning is based on the cash approach as a consequence of legal regulations, therefore it is clear that this is an obstacle to the utilization of the accrual approach. However, the issue should not be so simplified or generalized. On the one hand, planning based on the accrual approach can improve the reliability of cash flow projections and schedules (cash flow planning). On the other hand, specific cases may arise when it comes to planning the budget on an accrual basis. When planning the budget, the accrual approach does not appear at the level of forms as a result of the planning of appropriations, nevertheless, when doing background work the accrual approach cannot be completely disregarded in many cases. An example is offered by the calculations related to the obligation to replenish assets, in which calculations using amortisation represent one of the tools of accrual accounting.

Cash-based planning was followed by data to be provided to governing bodies, which is closely related to cash-based planning, as budget implementation is measured against the data provided. The supply of data to governing bodies using the cash approach indicates a lack of performance targets defined so as to reflect the accrual approach. According to the answers received, the utilization of the accrual approach is hindered by capacity constraints and, to a lesser extent, by deficiencies related to IT and education.

#### *Possible areas and goals for the development of accounting systems*

As the answers given to the questionnaire suggest, the responding organizations wish to develop their accounting systems mostly in the field of cost accounting. This was followed, far behind the most popular response, by revenue accounting and the recording of receivables and liabilities. One out of ten organizations seeks to improve records of fixed and current assets in future. Nearly a third of the responding organizations did not plan any development at all; the corresponding proportion among small organizations was 68.2 percent, offering the lack of adequate competence as a reason.

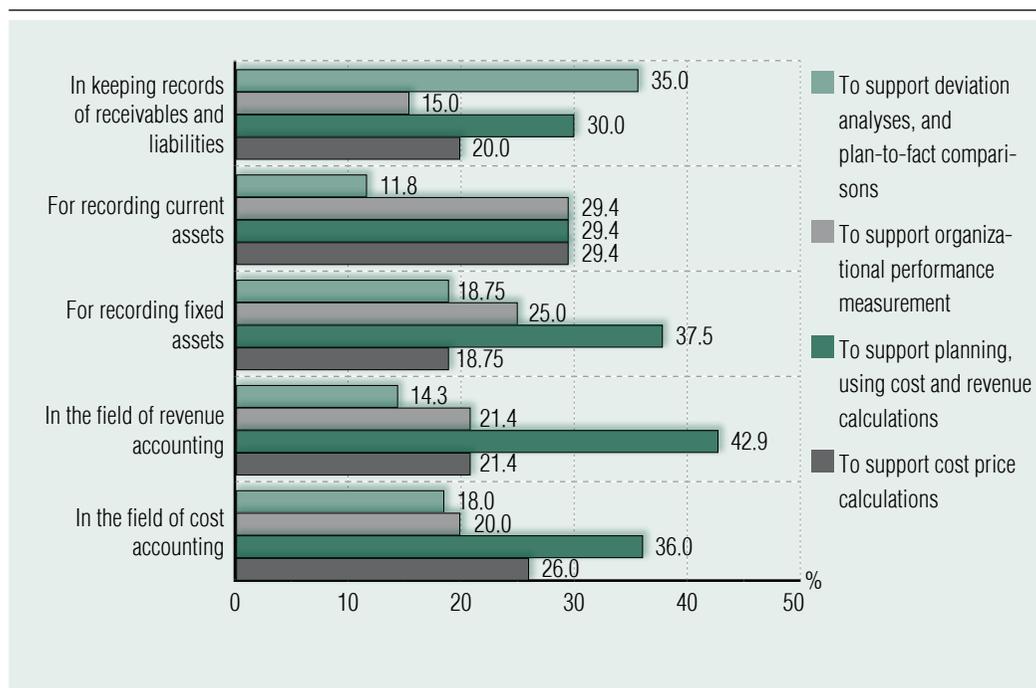
As the research shows, respondents want to develop their accounting systems mainly to support planning. This purpose is followed by the need to support cost price calculations, as well as organizational performance measurement and deviation analyses as distant third and fourth purposes. The specific areas and goals for development can be assessed together as well.

The specific areas and goals for the development of accounting systems are shown in *Figure 5*.

It is worth highlighting any deviation from the average. Improving the record-keeping of receivables and liabilities is most desirable for the purposes of deviation analysis, according

Figure 5

### AREAS AND GOALS FOR THE DEVELOPMENT OF ACCOUNTING SYSTEMS



Source: self-edited, based on questionnaire survey

to respondents, which is basically a step towards strengthening liquidity management. The dominant objective for the development of revenue accounting is to support planning, which may indicate a need for more accurate financial planning. Supporting organizational performance measurement and cost price calculations represent no major goal in any area, not even in cost accounting. Thus, respondents were less determined to improve their accounting systems for the sake of organizational performance measurement to support performance management.

According to the survey results, the degree of utilizing the accrual approach among organizations engaged in vocational secondary education and museum activities is related to the size of the organization, and consequently

to the diversity and nature of the fields of activity. Among the organizations participating in the survey, a group of forerunners can be observed, constituting about 15-30 percent of the large organizations. They tend to apply the accrual approach more widely, utilising it to support decision-making, sustainable management and even organizational performance measurement. Nevertheless, the organizations in the examined groups utilised the accrual approach to the extent that only partially exceeded the administrative level, a statement that was especially true for small organizations. Some large organizations utilised the accrual approach at higher levels occasionally.

With regard to long-term utilization, it is important to note that the respondents

generally emphasized the importance of planning, a fact underpinned by their responses concerning controlling functions, providing foundations for decision-making, and accounting system development goals. Also, planning is linked to sustainable financial management. However, the support of organizational performance measurement was given secondary importance among the organizations concerned, moreover, only about one-third of the respondents wanted to develop their accounting systems for this purpose.

## FURTHER OPPORTUNITIES

The research presented in this study focused on a narrow segment of the general government sector, such as organizations engaged in vocational secondary education and museum activities, and the above assessments are relevant to them.

### Regulation of cost price calculations and accrual-based measurement of the profitability of business activities

The results of the research show great diversity among respondents in terms of the practice of cost accounting closely linked to cost price calculations, the methods applied for cost price calculations, the utilization of cost prices, and their connection to accounting systems; this diversity was also true for large organizations. However, ensuring that sufficiently accurate and uniform cost price calculations are applied is especially important for the organizations providing multiple services, for the sake of transparency of funding processes. In the absence of a central regulation governing cost price calculations, there is a possibility that the organizations seeking to generate

additional revenue will provide external services at the expense, or to the detriment, of their core activities, because they fail to use appropriate cost price calculation methods to establish prices for their products and services. This may involve the irresponsible management of public funds, in addition to having an impact on market competition affected by the activities of the relevant budgetary body in the given area.

Special rules apply to public sector organizations if they also carry out activities for profit. If any residue is created through their business activities, the organizations of the general government sector are required to accordingly contribute to the central budget at a rate equal to the corporate tax rate; therefore, they are interested in using all their business income (generated during the year) for covering their business expenses. However, this approach may lead to wasteful financial management and use of public money. Furthermore, the accounting regulations in force do not take into account the fact that such organizations tend to use public assets (meant to serve their core activities) for carrying out their business activities, and the amortisation and utilization level of such assets will increase due to their business activities. Cash accounting information may give the impression that their business activities make profit, while their assets are being worn out faster and, as a result, will serve their core activities for a shorter period of time.

### Strengthening the role of governing bodies

The governing bodies of each field have the opportunity to assess the utilisation of the accrual approach in areas falling within their competence. The experiences gained in this way may also be utilized at the level of the

entire general government and may lay the foundations for further directions in public finance accounting regulations.

The governing bodies may also have a key role to play in the further strengthening of the accrual approach. By articulating their expectations, they may help ensure that accrual-based financial accounting is not only applied in order to fulfil a necessary legal obligation, but to serve as a real source of information for management decision-making, thus contributing to an efficient use of resources (Balog, Jakab, 2017).

In order to measure performance according to the same principles and to compare organizations, the governing bodies may order accrual-based, activity-based reporting and the use of service and performance-related indicators that can substantively measure activities. To that end, goals must be set whose attainment can be measured. Applying the same principles will allow for a comparative measurement of the performance of organizations. Through uniform management, any excess capacity in the system may be directed to the units in need; good practices and measures to increase efficiency may be promoted; and institutions may be motivated to apply the tools of accrual approach.

Using the same principles and unification will allow the individual areas to become comparable even at the level of public finances. In this way the governing bodies may also become increasingly motivated to design their activities according to the performance principle. Comparing the areas makes it possible to allocate the limited resources more accurately as measured against the actual needs.

Consideration should therefore be given to central regulation so the governing bodies should, on the one hand, set uniform performance requirements for the organizations managed, while continuously measuring and evaluating the fulfilment

thereof by means (among others) of the accrual approach. They should, on the other hand, create uniform accounting and controlling rules, by regulating, in particular, secondary cost accounting, cost calculations and cost allocations to help organizations providing public services under their control to carry out performance measurement activities.

### Supporting awareness-raising

This research also revealed that public sector actors often link the accrual approach to for-profit activities and not to an efficient and effective use of public money, moreover, it can be stated that the accrual approach has not taken over the role of being the main information system in Hungary. Public sector organizations typically use cash-based budgetary accounting information for planning, implementation, and reporting. As experienced, a change in attitude to facilitate the utilization of the accrual approach has not, or has only partially, taken place in recent years.

The accrual approach plays no or negligible role in the planning, implementation and control of budgets. Public sector characteristics, such as publicly owned assets, also play a role in this, as most often their value cannot be determined due to their limited marketability. The organizations concerned make little use of accrual accounting information in their operations. A change in attitude will take a long time, and the relevant governing bodies need to play an active role in achieving it.

### Steps to support the measurement of organizational performance

Public sector organizations essentially have access to pre-determined resources to be used for providing public services required from

them, and efficiency is an important aspect of their operation. Currently, the recording of costs by activity cannot be replaced by the recording of revenues and expenditures according to government function as they contain cash accounting data as part of budgetary accounting, thus serve the purpose of preparing functional balance sheets for final accounts.

Public services cannot be assessed for effectiveness unless accrual accounting data are available in a breakdown by activity and service and performance-related indicators are used during the assessment process allowing performance to be measured. The above raises the need for costs and expenditures incurred in performing individual activities to be recognized not only as cash accounting items, but also as items in a breakdown by government function or, more in detail, by calculation unit. Data cannot be aggregated on a national level, and organizations forming homogeneous groups in the same fields of activities cannot be compared, unless reliable cost accounting is performed in a breakdown by activity.

Cost accounting with sufficient detail is in the interest of the heads of institutions as it ensures that costs are separated or allocated by activity in the accounting records, serving the internal management information needs. It is an undisputed fact that secondary cost accounting (the application of Account Classes 6 and 7) can be developed by the organizations

themselves. This can be especially useful in cases where the heads of organizations are interested in some detail of operation, or some information to support decision-making, or they are considering the option of outsourcing some task.

Governing bodies may also be interested in sufficiently detailed secondary cost accounting information, as it can support the planning of resources and making comparisons between the operations of organizations performing the same tasks. Based on budget reports, it is currently not possible to calculate per-unit service and performance-related indicators for activities on an accrual basis, thus, there is no possibility to develop measurements or assessments that allow for a synthesized, national-level comparative analysis of performance, in particular the efficiency of public spending.

Finding the right indicator and developing cost accounting is a lengthy and costly task that budgetary bodies are reluctant to undertake in the absence of a central regulation. In order to move forward, the central government and/or governing bodies could provide help to budgetary bodies providing public services by developing expectations, standards and recommendations, on the one hand, through modifying and supplementing reporting forms, and, on the other hand, through developing a sector-based system of service and performance-related indicators. ■

ANNEX

**ANSWERS TO SURVEY QUESTIONNAIRES THAT THE AUTHORS CONSIDER INTERESTING AND NOTEWORTHY**

Question no.	Question	Number of optional answers	Answer	All respondents (%)	Respondents of small organizations (%)	Respondents of large organizations (%)
1.	Do you use Account Class 6 in financial accounting to recognise overheads that cannot directly be allocated to activities?	1.	yes, always	17,5	0,0	26,8
		2.	partly	20,6	0,0	31,7
		3.	no we do not use Account Class 6 in financial accounting	61,9	100,0	41,5
2.	Do you determine results of activities on an accrual basis?	1.	yes, regularly, at least quarterly	12,7	13,6	12,2
		2.	yes, regularly, at least annually	33,3	22,7	39,0
		3.	yes, on an occasional basis	14,3	0,0	22,0
		4.	no, results of activities are monitored only through the cash accounting approach (revenues-expenditures)	38,1	59,1	26,8
		5.	no, results of activities are not monitored in any way	1,6	4,5	0,0
3.	Do you usually rely on reports that use accrual-based accounting data (e.g., cost analysis, break-even calculations, etc.) to make management decisions?	1.	yes, I regularly use such reports	19,0	9,1	24,4
		2.	yes, I use such reports on an occasional basis	34,9	22,7	41,5
		3.	no, I use only reports reflecting the cash-basis approach (appropriation, financial settlement) for my decisions	46,0	68,2	34,1
		4.	no, I do not rely on accounting data for my decisions	0,0	0,0	0,0

Question no.	Question	Number of optional answers	Answer	All respondents (%)	Respondents of small organizations (%)	Respondents of large organizations (%)
4.	For what purpose do you use accrual accounting data? <i>(you can mark multiple answers)</i>	1.	budget planning decisions	82,4	75,0	84,6
		2.	decisions connected to non-mandatory services provided for a price/fee/reimbursement	64,7	50,0	69,2
		3.	for performance measurement affecting organizations/organizational units	17,6	0,0	23,1
		4.	other	0,0	0,0	0,0
5.	In your opinion, typically the cash approach or the accrual approach prevails in providing foundations for management decisions?	1.	decisions are made solely on the basis of cash accounting data, appropriations, liabilities, receivables and financial settlements, i.e. expenditures and revenues	63,5	81,8	53,7
		2.	decisions are made based on both cash and accrual accounting data	36,5	18,2	46,3
6.	If you are planning to improve your current accounting system, for what purpose would you do so? <i>(you can mark multiple answers)</i>	1.	to support cost price calculations	51,3	0,0	58,8
		2.	to support planning, using cost and revenue calculations	61,5	80,0	58,8
		3.	to support organizational performance measurement	35,9	60,0	32,4
		4.	to support deviation analyses, and plan-to-fact comparisons	33,3	40,0	32,4
			other	10,3	0,0	11,8

Forrás: saját szerkesztés

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