Mihály Ormos – Attila Veress

A Comprehensive Review of the Financial Reporting System of Higher Education and a Recommendation

Summary: The predominantly cash-based accounting and reporting procedures used in higher education institutions in Hungary significantly diverge from the procedures applicable to businesses. On the other hand, in Anglo-Saxon countries and the majority of EU Member States both of these sectors use accrual-based accounting. Using the survey conducted among the financial managers and students in higher education institutions this study seeks to answer the question as to who the real addressees of domestic higher institution reporting are and what their information needs are. This study will prove that accrual-based accounting would better serve the information needs of those concerned. We have worked out a new model, which will allow us to generate a report like the profit and loss statement used in the private sector, through the application of a set of adjustments – determined by us – to the predominantly cash-based accounting records used in higher education institutions.

Key words: institutions of higher education, public sector, accounting, accrual-based accounting, cash-based accounting
JEL code: H83

This paper will review and compare the accounting regulations and reporting obligations and practical procedures applied by Hungarian and Anglo-Saxon universities. All the while we seek to answer the question of what the main differences are between the range of information that can be inferred from the accounting reports of Hungarian and Anglo-Saxon universities and the extent to which the advances made over the last few decades have improved the usefulness of the information that can be retrieved from these reports. We have come to the conclusion that the reports of Hungarian higher education institutions – as opposed to the reports generated by Anglo-Saxon universities – substantially differ from the accrual-based accounting statements generated in the private sector, because in Hungary accounting records are mostly cash-based.

We have also examined whether the individual stakeholders would need and use the data retrieved from the reports to make decisions – the same way in Hungary as in other parts of the world. First of all we are look to answer *the question of who the real addressees (users) of the accounting reporting of domestic higher education are*. The survey was conducted on the basis of questionnaires sent out to financial managers of state-owned universities and colleges. Out of the responses of the financial managers of a total of 28 institutions we have used 25 for the purposes of this study and

E-mail address: ormos@finance.bme.hu
ssatti@pszfb.bgf.hu

compared them to the results of the research carried out in several Anglo-Saxon countries. Based on this, it is obvious that the controlling bodies are the addressees of the accounting reports of Hungarian universities and colleges, as opposed to Anglo-Saxon countries, where the data published in the reports are mostly addressed to the students and employees of these institutions (instructors, researchers and other employees). We have also examined *the extent of the interest expressed by university and college students in the data published in the accounting reports of these institutions*. We have come to the conclusion that currently in Hungary the financial situation of a higher education institution does not really figure into its overall perception, although there has been a marked increase in the perceived importance of these accounting data by students. We treated *the issue of whether the accrual-based accounting used in the private sector would serve clearer and more transparent information better as a key issue*. The questionnaire survey carried out among the financial managers of Hungarian universities and colleges clearly proves that the accounting reports generated by state-owned universities and colleges – in their current form and content – do not satisfy the information needs of all the possible addressees, and that preparing the accounting reports in line with the accounting principles – using an accrual-based approach – named in the Act on Accounting would be justified at state institutions as well.

This study portrays a profit and loss statement model that could provide the possibility of measuring performance and efficiency on an accrual-basis until accrual-based accounting is eventually introduced in the public sector. In addition, the data reported in these profit and loss statements would make the effectiveness of universities and private sector stakeholders comparable.

ACCOUNTING REPORTING IN HIGHER EDUCATION

In Hungary, state-owned institutions of higher education draw up their accounting reports in accordance with the framework regulations defined in Act C of 2000 on Accounting (Accounting Act) and the specific rules set out under Government Decree No. 249/2000 (XII. 24.) on the Specificities of the reporting and book-keeping requirements applicable to general government organisations (áhsz). As a result of the data supply necessary for the comparison of residual interest-based financial management and cash-based institutional budgets, institutions keep accrual-based records on the economic events influencing their asset and financial situation that have been adjusted in the double-entry bookkeeping system. Universities and colleges fulfil their reporting obligations through an annual financial statement, a shorter semi-annual financial statement, and quarterly balance reports. The annual financial statement contains the accounting balance sheet, a cash flow statement in a format and structure that corresponds to the institutional budget, a statement on the residual allocations describing a breakdown of budgetary reserves by activity as well as a supplementary annex. In the corporate sector companies often provide a detailed, indicator-based analysis of the financial management and performance of the enterprise over the preceding period in the supplementary annex to the report. The demand for indicators linked to performance evaluation on the part of the proprietor clearly figures in the mandatory institutional development plans of Hungarian higher education institutions. However, the expectations linked to these indicators are unclear; therefore, they are established by the individual institutions at their own discretion. This means that at the moment the supplementary annexes prepared by Hungarian universities and colleges do not contain an analysis based on a set of common indicators, which would, in turn, ensure the comparability of the financial management performance of these institutions. Furthermore, it can also be established that the supplementary information provided is too detailed, overly complex and difficult to interpret for non-professionals. This despite the fact the advantages of indicator-based systems are indisputable, as they can provide comprehensive and clear information compressed into a few figures, on some of the most important issues of financial management. It is therefore no coincidence that we can see several international examples of this.

Smith (1995) investigates indicator-based performance evaluation procedures in the United Kingdom. The paper is highly critical of these procedures, because although many have pinned high hopes on the performance-enhancing effect of these indicator-based systems, they failed to consider the costs associated with the introduction of these systems as well as the income lost on processes that were not included in the scope of these indicator-based systems. It also highlights the general dysfunction of the indicator systems applicable to the institutions often represented by the decision-makers, created as a result of a power struggle. Putting these per unit subsidies in the context of "performance" – especially, if they also play a part in the allocation of funds – can have a significant motivating effect, i.e. a step like this opens up the possibility of exerting influence over even the minutest details of financial management and operation.

Modell (2004) describes indicator systems aimed at strategic, goal-oriented, multi-dimensional performance evaluation used in the public sector, such as the Balanced Score Card (BSC), which are used more and more frequently in the financial management practice of budgetary institutions. When considering the various issues involved in the process of measuring performance, he admits that these tend to have an impact at the operating level, which is often more expedient than financial control often resulting in centralised financial management and only influencing institutional management.

Due to the re-interpretation – according to the provisions of the áhsz – of the accounting principles set out in the Accounting Act determining the content, format and structure of the information presented as well as the accounting settlements, the reports of higher education institutions are very different from reports in the business sector. According to the rules applicable to companies the matching concept places the performance achieved in the given period in the focus of the accounting settlements, where the recognised income items and the costs corresponding to the income items (expenditure) of the activities are considered when determining the results of a given period, regardless of actual financial performance. Based on the re-interpreted matching concept as per the provisions of the áhsz, the expenditures of a given period should include actual cash expenditure, and income items should include actually received (collected) income and non-cash income revenues in the books of the entity concerned. Therefore, based on the re-interpreted matching concept, in the practice of budgetary institutions – as a result of the cash-based approach to accounting – profit (residual, and ordinary profit) may be interpreted as the difference between actual income and expenditure. This is perhaps one of the biggest problems, as this principle not only concerns the reports, but has a serious effect on the theoretical background of financial management as well. Despite the fact that the Higher Education Act that entered into force in 2006 already establishes that residues cannot be withdrawn, it undermines long-term financial management and thinking in terms of institutional financial management. If we add that the Act on Public Finances states that budgetary institutions may not engage in any loss-making activities, the fundamental failing of the cash-based approach to accounting becomes more than apparent. Because, as a result the management of an institution may even become wary of a project, activity, or capital investment that would already be capable of generating profit even in its first year, were it considered along the lines of accrual-based accounting. Institutions of higher education make their reports on a fiscal year, i.e. only the amounts collected and payments made during the calendar year may be booked as income and expenditure, respectively. On the other hand, if one takes the classical interpretation of the matching concept into account, costs and expenditures should be linked to the periods to which they relate. As a result, not even the principle of accrual may be adapted to the specific financial management conditions of state-owned institutions of higher education.

Overall, it can be established that state-owned universities and colleges in Hungary use a special cash-based report format instead of reporting relying on accrual-based accounting.

Although far from unique, this solution is not generally accepted or widely used. With the advance of market economies and capital markets, cash-based accounting has been replaced by accrual-based accounting rooted in the matching concept, which, in many places, has already been extended to the institutional and budgetary sector as well (Fekete, 2009). The Hungarian system is unique in that companies and budgetary institutions use different procedures for their accounting reports. As a result, presenting assets and profit on a cash basis is often unmanageable using regular analytical techniques. *Pallot* (1992) points out that the increasing demand for the details of the financial management of public resources has a massive impact on the accounting practice of the budgetary sector. In her paper, the author argues for a more detailed and transparent presentation of the available resources and proves that budgetary institutions should use accrual-based accounting, because it is an accounting method that is widely accepted by society. In the interest of international comparability, for the institutional sector *Broadent* and *Guthrie* (1992) recommend a single uniform accounting system that places performance at the forefront and reflects alternative accounting specificities. Their empirical research, which reveals the cyclicity of the performance of the institutional sector further emphasises this assertion.

Carnegie and *West* (2003) explore the nexus between the reporting obligations of budgetary institutions with a range of activities other than higher education institutions and accrual-based accounting. In their research the authors focus on museums and libraries. In this sector business activity is negligible; therefore, the advantages of accrual-based accounting are not palpable, but the effects of its complexity weigh quite heavily on it. The authors recognise that when it comes to institutions characterised by a series of economic events spanning several years, the returns generated by the corporate reporting system outweigh its costs. On the other hand, approaching budgetary institutions with a measure of criticism, their general take is that the solution employed by New Zealand and Australia, where a marked preference is shown for accrual-based accounting, is not the best solution. They assert this despite the fact that *Potter* (2002) elaborates in detail in a paper written a year earlier that the "new" accounting procedures introduced in Australia were a major step forward in the financial management of budgetary institutions as well as the comprehensibility of the information published by them.

According to *Barton* (2005), the indiscriminate use of corporate sector accounting procedures in public institutions may easily result in misleading data. When developing accounting systems, the developers of accounting systems[1] should rely first and foremost on the needs of the "principals" of the accounting data. During the transition to accrual-based accounting in Australia, this was taken into consideration; therefore AAS 29 and AAS 31[2] discuss the unique features of budgetary institutions in detail and provide a novel interpretation as well. At the same time, the structure and content of the information presented follows corporate practice; the difference is that the range of information is wider. The author feels that it has been proven that the application of the matching concept has improved the efficiency of the sector, and that the awareness of the people interested in these types of data has been significantly improved.

The issue of whether higher education institutions founded by the state are really a part of public assets is also an important question. If we look at the operation of our universities and colleges, we must realise that, like business organisations, these institutions are vying for scarce resources, aiming for efficiency and good performance, and they adopt behaviour patterns that can improve their output. This is exactly like the behaviour exhibited during the management of corporations, where an economically minded approach is indispensable. *Nagy* and *Robb* (2008) introduce a new concept, when they refer to universities as corporations, using the term "corporate university". They deduce that institutions of higher education do not behave like the simple producers of public goods under the conditions of market competition (for students), political lobbying (for funds) and their aim to allocate scarce resources as efficiently as possible, rather they behave like a competing company. We must also add that corporate social responsibility – as a new direction – has had a significant impact on the behaviour of corporations, while institutions of higher education are going in the opposite direction; accordingly, the gap between the two types of institutions is continuously closing.

Based on the above, the completely different reporting practices of the two sectors are difficult to interpret, though we must see the goal within the structure of reporting obligations of budgetary institutions is not to provide extensive information, but to simplify the compilation of the balance of public finances as well as to facilitate the audit function of the state as the owner.

Edwards and co-authors (2002) formulate a similar opinion when analysing the accounting and budgetary system of the UK's higher education system. They conclude that the neo-liberal economic-political impacts that started in 1993 placed a new kind of responsibility on the shoulders of institution managers; they now require considerable background information in order to make decisions, and since these are basically managerial and executive decisions, the introduction of Management Information Systems, that can easily provide basic data of the financial accounting system, is inevitable. They point out the easy to spot changes within the financial management of budgetary institutions, which, due to the 'new' economic background, wholly reflect the managerial, entrepreneurial approach, i.e. financial management measures based on economic rationality.

Guthrie (1998) concludes that in Australia the switch to accrual-based accounting resulted in significant changes; the concepts of deficit, loans, commitments, operating and business profit and assets all gained new meaning, and this radically altered the financial management capability of institutions. In order to interpret the information boundaries observed during international comparisons, *Broadbent* (1999) calls attention to aspects of cultural differences.

The Federation of European Accountants (FEE - Fédération des Experts-comptables Européens) regularly puts the review of the reporting and control system of the public sector on its agenda and analyses the current situation in European member states. Previous surveys, which provided a snapshot of the application of reporting principles in Europe, indicated that accrual-based accounting continues to gain ground in the public sector, gradually edging out cash-based accounting. Based on its 2007-2008 survey, the FEE published a discussion paper in which it analysed the effects of the introduction of accrual-based accounting in the public sector in Europe, using information received from 26 countries. The Federation was looking to answer the question as to whether the introduction of accrual-based accounting in the public sector constitutes a basic reform or not. Of the 26 countries participating in the survey and analysis, 15 are already fully or partially applying accrual-based accounting at a governmental-level. The very first such country was Spain (1983), but Portugal, Sweden and the Netherlands also followed suit from the beginning of the nineties. They were followed by Italy (1997), Finland (1998), and the United Kingdom in 2000. In the meantime, the latter reached a decision on the introduction of International Financial Reporting Standards at a central government level as of the fiscal year beginning after 1 April 2009. The transition was completed in several steps in Denmark, where full-scale introduction and the cost-based planning of the central budget (2005 and 2007) were preceded by a pilot phase. Of the older EU Member States, France only fully switched to this new type of accounting in 2006. Of the countries recently acceded to the European Union, Latvia started using accrual-based accounting at the level of central chapters from 2003; Romania from 2006, Slovakia from 2008, Lithuania from 2009 and the Czech Republic from 2010, while Austria indicated 2013 in an earlier statement as the date of introduction. We encounter the accrual-based approach more and more frequently in international accounting regulations of the public sector; in fact, the majority of EU Member States have already switched to the application of accrual-based accounting at a central chapter level.[3]

All in all, we can say that in the majority of Anglo-Saxon countries and EU Member States, the provision of accounting information in higher education institutions bears a striking resemblance to the information presented by corporations. Supplementary information, usually based on indicators, show significant differences, though the weight of these items is most probably the greatest with respect to the motivation of financial management. The accounting regulations concerning Hungarian budgetary institutions still show considerable differences compared to the above international practice, as settlement per priority appropriations is still a significant element of fiscal management. National accounting reporting is currently adapted to the planning and reporting system of the central budget. This ensures that settlement does indeed happen; however, for addressees of financial statements who are outside the state budget, the extensive information published in the financial statement are difficult to interpret. Moreover, a number of analyses prove that accrual-based accounting that focuses on the principle of comparison ensures a better foundation for planning, financial administration and decision making in the public sector and opens up new roads for the measurability of economic performance and efficiency (Ormos – Veress, 2011a).

THE USER AND INFORMATION REQUIREMENTS OF HIGHER EDUCATION ACCOUNTING

In this chapter, we will be examining whether the individual stakeholders would need and use the data retrieved from the reports to make decisions. The survey was conducted on the basis of questionnaires sent out to financial managers of state-owned universities and colleges. Out of the responses of the financial managers of a total of 28 institutions we have used 25 for the purposes of this study and compared them to the results of the research carried out in several Anglo-Saxon countries.

In the first part of our questionnaire survey, we listed the potential users of accounting reports. One hundred points had to be distributed among potential addressees, with the most points awarded to users who, based on the opinions of financial managers, are most concerned by the information published in the accounting reports of state-owned universities and colleges. The survey was inspired by the work of *Coy and co-authors* (1997). Among other things, they examined the fundamental question of who the actual users of annual reports are. This question has been elaborated on in 14 studies involving five countries (see summary table below) since 1978. The authors conducted examinations on New Zealand in connection with 32 higher education institutions. The financing structure of institutions (with student numbers of 80,000 full-time students) was as follows: the state budget supports higher education to the tune of USD 1.25 billion, tuition revenue amounts to USD 300 million, and a further 20 per cent of the total average institutional budget is the so-called spring tuition fee.[4] After the financing reform of 1984, the state budget required institutions to also generate their own revenues, of which a negligible part is acquired in the form of loans; it must also be mentioned that in their case the extent of support provided by sponsors is also minimal.[5] The direct result of all this is that in their case the necessity of creditor information provision is relegated to the background; however, this is true only as long as the budget provides a guarantee for the institution's commitments, in which regard significant changes are expected in the spirit of institutional autonomy.

The higher education system in New Zealand bears a striking resemblance to that of Hungary; therefore, our results were also compared with theirs. In *Table 1,* besides the potential addressees (users) of the accounting reports of state-owned universities and colleges, we can also see the aggregate averages of the 100 points distributed by financial managers.

Another question is what type of information the various players require in order to assist their decision making. Of the requirements of accounting information, the most important are completeness, clarity and the enforcement of the principle of comparability.

Table 1

POTENTIAL ADDRESSEES (USERS) OF THE ACCOUNTING REPORTS OF STATE-OWNED UNIVERSITIES AND COLLEGES, %

1.	Researchers and analysts	6.00
2.	Students	3.00
3.	Media	1.20
4.	Controlling body (State)	67.07
5.	Suppliers 1 ('regular' suppliers)	2.60
6.	Suppliers 2 (suppliers of research and education activities)	3.20
7.	"Future" employers (corporate sector, public sector)	0.80
8.	University/college employees (not instructors)	7.80
9.	Instructors	6.73
10.	Other addressees (users)	1.60

Source: own editing

The survey clearly shows that the main addressee of the accounting reports of state-owned universities and colleges is the controlling body. Of the other possible addressees, university/college employees (not instructors), instructors, suppliers, researchers and analysts are more or less equally concerned regarding the information published in the reports, but naturally this rate is negligible compared to that of the controlling body. For the other addressees listed in the table (students, media, "future" employers, other addressees) – in light of aggregate results – the data published in the accounting reports of universities and colleges carries very little informational value. In view of the domestic financial statement prepared on essentially a cash basis, the results are hardly surprising; however, if we compare these with the results of international surveys, we come to very interesting conclusions. The results of Coy et al. and the aforementioned 14 studies (Anthony, 1978; USA, FASB, 1980; USA, CICA, 1980; Canada, Drebin et al., 1981; USA, Jones et al., 1985; USA, Sucliffe, 1985; Australia, GASB, 1987; USA, CVCP, 1989; United Kingdom, Engstrom – Fountain, 1989; USA, AARF, 1990; Australia, Likierman, 1992; United Kingdom, NZSA, 1987; 1991; 1993) are shown in *Table 2*.

University, college citizens. Research classifies citizens of higher education institutions into the following groups: instructors, researchers, institution managers, service purchasers (including students), non-instructor and non-researcher employees. We consider service purchasers one of the most important groups as institutional revenues – regardless of financing structures – are in strong correlation with the number of students. Today in Hungary, the decisions of the student body are only minimally permeated by the examination and analysis of the economic situation of the given institution. It is difficult to accept, but the issue of the financial stability of institutions is also only remotely apparent in parental decision-making. Truth be told, the issues can be detected, but they affect decision making only implicitly, as delegating a budgetary supervisor to the institution or providing information through the press has a slight impact on selection; however, the study of explicit accounting data in essence is not performed. This is odd, because if we think about it, the knowledge that can be acquired by students greatly depends on the financial situation of the given institution. It would be expedient to examine what revenues institutions generate from research and what resources and capacities are available for this purpose. The amount of personnel-related expenditures of instructors and researchers, average remuneration, remuneration principles or the existence of exclusive agreements are all telling data. This indirectly shows how much the institution's

Table 2

THE WEIGHT OF INFORMATION ADDRESSEES BASED ON INTERNATIONAL RESEARCH, %

Information addressees	The average of the 14 studies[6]	Empirical research of Coy et al. (1997)
University, college citizens	21.26	34
Partner universities, colleges / competitors	1.45	11
Elected and appointed persons	28.50	23
Fund-providers, supporters	20.77	10
Non-university citizens	9.66	13
The public, analysts, media	18.36	8

Source: own editing

team of instructors is able to concentrate on its full-time job and how much it is required to do so according to said exclusive agreements. Student decisions determine a lot of things in the long-term, even if we just focus on the three to seven years students spend in any institution of higher education. Surely it makes a difference if students enrol in an institution where purchasing new computers is a serious problem or where students are requested to provide self-addressed envelopes in order to receive letters from the school. Naturally this will be reflected in the institution's student-related activities. If any institutional financial management is in such a state, not knowing about it or failing to recognise it seems like a mistake. Undoubtedly, in Hungary this is still a matter of lesser importance as the main selection criteria among students are the reputation of the given institution, the value of the diploma it issues and other subjective aspects, as opposed to the assessment of its financial situation. These factors do correlate with the economic situation; however, there is a delay of several years between the variables. As a result, the given institution may have an excellent reputation to no avail, if for five years students will be forced to take classes from instructors who are not up-to-date with new research results and the institution's equipment is outdated. This seems to be supported by the results of the questionnaire survey we conducted among the full-time students of the Budapest Business School. The first questionnaire survey was conducted back in 2007, while the next one was carried out in 2011. In 2007 we asked 153, and in 2011, 188 students about two significant issues. The first question sought to determine the importance, from the students' perspective, of the aspects defined by us in terms of institution selection. The second question pertained to the importance students placed on the pre-defined aspects in the case of university and college training. According to the conclusions of the 2007 survey, when we asked the following question: *"When you decided to enrol in this institution, how much weight did the following carry?* Rate on a scale from 1 to 5; (1: was completely immaterial, 5: was a decisive aspect)", students considered school revenues practically immaterial, with an average of 1.15; the data published in the institution's annual accounting report was also deemed immaterial with an average score of 1.51. Based on these results, the financial situation of the school was not at all a decisive aspect of selection, well reflected by the 1.59 rating. The 4.37 rating of "Famous university/college" and the 4.15 rating of "It is considered the best" were in line with our hypotheses. In other words, in summary, we have concluded that in 2007 the need for accounting information among full-time students was at a very disappointing level. *Table 3* shows the aggregate results related to the first question of the 2007 and 2011 surveys processed.

The results of the survey conducted four years later differ significantly from those of the previous survey. This time around, institutional revenues and the significance of the annual accounting report were on average rated 1.89 and 1.97, respectively, while financial situation received a rating of 2.52. The 2011 results still show a low level of "financial interest", but in comparison with 2007 results, we can conclude that students consider accounting data to be of greater significance when selecting schools, i.e. the necessity and importance of accounting information is gaining public awareness in Hungary.

When we posed the following question to students: *"How important do you consider the following in connection with such a training?* Not when selecting an institution, but in general (1: immaterial, 5: very important)", in 2007, students rated the importance of high revenues as 1.68, while in 2011, this same value was 2.84. Similarly, the rating of clear annual accounting reports also climbed higher (from

Table 3

STUDENTS' OPINION ON THE VARIOUS CRITERIA WHEN SELECTING HIGHER EDUCATION INSTITUTIONS

Questions	2007		2011	
	average	standard deviation	average	standard deviation
1. Famous university/college	4.37	0.83	4.27	0.82
2. Amount of school revenues	1.15	0.42	1.89	0.96
3. Excellent teaching staff	3.73	1.05	3.60	1.05
4. The school's research results	1.95	0.92	2.35	1.13
5. It is considered the best	4.15	1.04	4.11	0.87
6. The school's annual accounting report was good	1.51	1.03	1.97	1.12
7. Favourable class schedule	3.78	1.35	2.87	1.12
8. Tuition (fee) tuition represents a good value	3.73	1.16	2.60	1.29
9. Financial situation of the institution	1.59	0.84	2.52	1.13
10. Opportunity to network/build contacts	2.83	1.30	3.75	1.07

Source: own editing

1.9 in 2007 to 2.55 in 2011). The aggregate table also shows that the most important aspect of selecting a university or college is the value of the teaching staff and diploma. What is more, when assessing these aspects opinions do not differ significantly either, as variance corresponding to these aspects was well below average variance. *Table 4* shows the aggregate results related to the second question of the 2007 and 2011 surveys processed.

Table 4

STUDENTS' OPINION ON THE VARIOUS CRITERIA IN RELATION TO HIGHER EDUCATION INSTITUTIONS IN GENERAL

Questions	2007		2011	
	average	standard deviation	average	standard deviation
1. Instructors	4.85	0.36	4.52	0.83
2. Supplementary educational material	4.61	0.63	4.28	0.79
3. Practice-oriented approach	4.51	0.75	4.51	0.66
4. High revenues	1.68	0.85	2.84	0.97
5. High level of requirements	3.98	0.82	3.97	0.76
6. Fairness of examinations	4.56	0.55	4.29	0.93
7. Infrastructure	3.68	1.08	3.55	0.99
8. Organisation	3.95	1.00	3.88	0.96
9. Wide range of services	3.66	0.94	3.73	0.89
10. Value of diploma	4.76	0.54	4.73	0.57
11. Student number	3.20	0.98	3.41	0.96
12. Development of management education	3.63	1.09	3.20	0.91
13. Potential to network/build contacts	3.44	1.07	4.06	0.88
14. Participation of foreign universities	2.51	1.21	3.41	1.05
15. Clear annual accounting report	1.90	1.02	2.55	1.09

Source: own editing

Based on the above, we can conclude that on the students' part, the perception of the significance of accounting data lags far behind that of the students of the five countries examined by Coy and co-authors (1997). This is true both in general and when selecting a specific institution of higher education.

In *Table 5*, we have juxtaposed the empirical research of Coy et al. and our own results. For the sake of comparability we have merged certain groups of potential addressees. Of the possible addressees listed in the questionnaire, we classified students, instructors and the employees of universities and colleges (not instructors) as "university, college citizens"; the controller and all suppliers as "fund-providers, supporters"; while researchers and analysts as well as the media as "the public, analysts, media". We are presenting this classification according to the sub-groups of the potential main addressees of the table containing the aggregate results of the research conducted by Coy and co-authors with respect to 14 countries.

Though the higher education system of New Zealand does bear a resemblance to the Hungarian system, the results of the two countries are still completely different. Based on Hungarian results, the main addressee of the report is the controlling body (taking the merging into account: the fund-provider, supporter). In contrast, based on the results of the New Zealand survey, with respect to data published in the accounting report the main addressees are the institution's students and employees (teachers, researchers, other employees), but the managers of the institution as well as legislation and MPs also have a considerable need for information. The two surveys produced near identical results with respect to the category of "the public, analysts, media". As the New Zealand results were more or less the same as the results of surveys conducted in the 14 other countries, the question begs itself why the results of the domestic survey conducted among those most knowledgeable regarding the accounting reports of universities and colleges (financial managers of universities and colleges) are so drastically different from international results. The different results are most probably due to the different accounting regulatory environment and the different emphases on accounting information. In their approach, the regulations of budgetary institutions, particularly those regarding accounting procedures and reporting of institutions of higher education – in contrast with Anglo-Saxon and now EU practice – are significantly different from the rules concerning corporations and enterprises. As a result, even players who are potentially familiar with accrual-based corporate reports have difficulty interpreting or are unable to interpret the data published in the accounting reports of state-owned universities and colleges. The domestic survey

Table 5

THE WEIGHT OF INFORMATION ADDRESSES IN LIGHT OF INTERNATIONAL RESEARCH AND OUR OWN RESULTS, %

Information addresses	New Zealand Coy et al. (1997)	Hungary
University, college citizens	34	17.53
Fund-providers, supporters	10	72.87
The public, analysts, media	8	7.2
Other addressees (users)	47	2.4

Source: own editing

also showed that accounting reports prepared in accordance with current regulations do not provide substantial information for the heads of institutions either, as based on the opinions of those surveyed, other addressees (and this user group includes the heads of institutions as well) are only concerned about the data published in the reports to a degree corresponding to 1.6 per cent. The information published in the accounting reports of Hungarian state-owned universities and colleges, therefore, primarily satisfy the information needs of the controller (state), as opposed to the Anglo-Saxon practice, where based on research results, we can state that beyond the controller (fund-providers) there are also other significant addressees for the information published.

In the second part of the questionnaire sent out to financial managers, we formulated statements in connection with the justification of potential accrual-based accounting and current accounting reports, as well as the informational value of data published in these reports and their utilisation, which statements were then to be rated on a scale from 1 to 5 (1 – I absolutely disagree with the statement, ... 5 – I completely agree with the statement). *Table 6* shows the statements of the questionnaire and corresponding average points (averages) as well as the variance.

The respondents acknowledge the necessity of accrual-based accounting, as they rated 50% of statements on the subject with scores between 3 and 4, and the other 50% between 4 and 5. I wholly agree with the statement that comparing the accounting reports published by higher education institutions with corporate reports is quite difficult. Though this statement is a clear consequence of the amendment of the accounting principles specified in the Accounting Act through the corresponding government decree, it is still surprising that amidst market conditions recognised and acknowledged by financial managers, the accounting reports – with respect to present form and content – of universities and colleges greatly differ from corporate reports. They clearly indicate the necessity of calculating accruals; they would support the determination of accrual-based revenues and expenditures according to pre-determined titles, and they acknowledge that the fundamentally cash-based financial statement does not say much about efficiency or how well resources are managed. Based on the results listed above, it seemed clear that they would support the profit and loss statement communicating the effectiveness of state-owned universities and colleges just as they did other statements built up around an accrual basis. We must note that in the case of this question as well, assessment is still more on the supporting and accepting side; however, the 3.33 average related to the statement on the necessity of the profit and loss statement remains below the averages related to other statements of a similar direction. Moreover, the high variance of the points corresponding to the statements indicates that opinions differ to the greatest degree regarding this particular issue. This most probably has two reasons. According to the earlier idea outlined in Government Decree No. 249/2000, beyond the regular financial statement, budgetary institutions should also have prepared an accrual-based report supported by accrual-based accounting, and should have also prepared a profit and loss statement as part of an accrual-based report. As we have already stated in an earlier section of the study, the regulation on the two types of book-keeping and two types of report-making never entered into force. We can assume that the majority of those surveyed were unable to accept the idea of the profit and loss statement due to the huge additional workload the original notion of the regulation would have implied. Another possible reason could have been that an accrual-based profit and loss statement is still very foreign in

Table 6

THE OPINION OF FINANCIAL MANAGERS OF STATE-OWNED UNIVERSITIES AND COLLEGES ON THE NECESSITY OF ACCRUAL-BASED ACCOUNTING

Assertions	average	standard deviation
1. The calculation of accruals is necessary (e.g. in the case of tuition fee-based training)	4.20	1.26
2. The determination of accrual-based revenues and expenditures according to pre-determined titles is necessary	3.67	1.54
3. Knowing the results of matching, in line with accrual principles, could be a vital indicator of the institution's operation	3.33	1.40
4. The current accounting report primarily helps to compile the institutional budget	2.73	1.33
5. It is very probable that the cost of generating the information published in the present report is disproportionate to the usability of the information derived, even by the state – as the "main addresses"	4.00	1.07
6. The majority of those participating in book-keeping and the preparation of accounting reports are not familiar with the modes of utilisation of the information published in these reports	3.20	1.08
7. We would need a report similar to a corporate profit and loss statement, that would allow for the comparison of the effectiveness of state-owned universities and colleges (and of course other budgetary institutions) with that of corporations and enterprises	3.33	1.59
8. The cash-based approach serves the compilation of the budget well, just as it does comparison with the institutional budget; however, it says nothing about efficiency or how well resources are managed	3.80	1.26
9. Today, there is an increasingly fierce struggle for students between universities and colleges, i.e. market conditions have developed	4.40	1.18
10. The compilation of accounting information presenting and exploring the financial situation and management of institutions of higher education and the public sector should not exclusively reflect the needs of the proprietor	4.27	1.22
11. I feel that even the proprietor itself fails to regularly compare the reports of the various higher education institutions	3.73	1.16
12. Comparing the accounting information published by higher education institutions with reports compiled according to rules of the corporate sector is quite difficult	4.60	0.74

Source: own editing

comparison to the structure of the financial statements currently used. In spite of the below average rating of other statements built up around accrual-based accounting, most respondents rated the idea of a report similar to corporate profit and loss statements with a score of 4 or 5. Nearly all respondents agreed that the compilation of accounting information presenting and exploring the financial situation and management of institutions of higher education and the public sector should not exclusively reflect the needs of the controller. The questionnaire survey also showed that financial managers feel that the cost of generating the information published in the present report is disproportionate to the usability of the information derived, even by the state – as the "main addressee". This is particularly interesting as results show that according to opinion providers, even the controller itself fails to regularly compare the accounting reports of state-owned universities and colleges. Based on the above, we can conclude that the varied data published on the forms related to the accounting reports of state-owned universities and colleges – the preparation and compilation of which requires significant apparatus – probably remain unutilised beyond the preparation of the institutional budget.

A MODEL OF TRANSITIONING TO ACCRUAL-BASED ACCOUNTING

The first attempt at transitioning to accrual-based accounting in Hungary was published in the áhsz as amended on 1 January 2010, under the requirement on "Accrual-based accounting and reporting" (Articles 44/B and 44/P). Pursuant to the Government Decree the budgetary institutions to whom economic (profit) based accounting and reporting obligations were applicable according to Paragraphs 3 and 10 of Article 100/I of Act XXXVIII of 1992 on Public Finances, were also required to prepare a separate annual profit-based budget report, but this provision was rescinded by a later amendment.

The idea was that the involved budgetary institutions would have been required to prepare a separate, annual profit-based budget report supported by accrual-based bookkeeping practices taking account of the original interpretation of the basic principles defined in the Accounting Act, in addition to the so-called "regular" budget report supported by modified accrual-based bookkeeping practices. As part of the annual profit-based budget report, these institutions would have been required to draw up a balance sheet report and supplementary annex with content and in a format that differs from the accounting balance sheet and supplementary annex of the regular budget report. It is likely that the main reason behind the rescinding of the provision was the surplus work that would have been required were accrual-based accounting introduced, the rather high cost of the IT developments that would have been required, and the increase in the administrative tasks related to the settlements. The idea was definitely viable, because cash-based accounting reveals little more than the cash spending and the structure of the spending of the institutions in the given period, not to mention the fact that the public sector is extremely diverse, encompassing a broad range of activities such as healthcare, culture and higher education. The characteristics and the financial management of these activities are equally divergent. The management of a higher education institution thinks in terms of academic years (from September to August). Its income and expenditure are not incurred in line with the calendar year; therefore cash–based accounting projected onto a calendar year distorts the figures considerably. Naturally, the reporting period is not an issue for other sectors, but the interpretation of the information presented is complicated if incomes generated in a given period are not matched to the resource utilisations performed in their interest. Perhaps it is no coincidence then that budgetary institutions in Anglo-Saxon countries prepare all their reports using the procedures established by the corporate sector (Fekete, 2009; Ormos and Veress, 2011b).

The next part of the paper will show that state-owned higher education institutions may draw up a report annex that is akin to the profit and loss statements prepared in the corporate sector, through adjustments made to the records kept in accordance with the effective legislation without having to employ modified "supplementary" accrual-based accounting procedures [we have already composed our recommendation for the public sector (Ormos – Veress, 2011c)].

Profit and loss statements generated from modified accrual-based accounting records

The double-entry accounting records of the public sector do not distinguish between expenditure and cost and income and expected income either in terms of time or value.

Moreover, the legal titles, set out by the relevant government decree, do not necessarily cover the content of the income and expenditure (costs) featured in the profit and loss statements of companies. Based on this it is obvious that preparing a statement similar to the profit and loss statements used in the corporate sector for state-owned higher education institutions – due to the different accounting bases used by the corporate and public sectors – would require several adjustments following the matching of the data that can be obtained from the modified accrual-based records to the defined income and expenditure (cost) lines of the profit and loss statements of companies. Budgetary institutions uniformly book the economic events of their activities on general ledger accounts defined by Annex 9 to the áhsz. As a result, in the profit and loss statement model of the public sector, uniform parameters may be determined for the matching of the data set of the general ledger to the income and expenditure lines defined in the model. In accordance with our previous notions, our profit and loss statement may be created in three steps. First, we must determine the scheme of the profit and loss statement. Secondly, we would need to match the relevant accounts in the chart of accounts set out under the government decree to the income and expenditure lines defined in the profit and loss statement. Thirdly, we would need to define the adjustments necessary to change the basis of the cash income and expenditure items to an accrual basis.

The profit and loss statement that we recommend for higher education institutions basically corresponds to the total-cost, graduated, profit and loss statement defined in the Accounting Act, but there are also lines, which can only be interpreted with content adjustments due to the related unique financial management and other features.

Appropriation of performance accounts related to the profit and loss statement of budgetary institutions:

- Account class 9: Revenue appropriation performance accounts;
- Account class 5: Expenditure appropriation performance accounts;
- Account class 4: Appropriation of performance accounts of final cash fund transfers from sources outside public finance, or related to revenue equivalent to grants, or related to grants received in the preceding year;
- Account class 3: Performance accounts of operating and grant-like accumulation expenditure appropriations;
- And the performance accounts of operating and accumulation-purpose cash instrument transfer appropriations to outside the public finances,
- Account class 2: Revenue appropriation performance accounts related to the sales of securities[7];
- And finally 59: The accounts of the *Various Settlements* account class.

In connection with our profit and loss statement model, we have defined adjustments, which – after matching the appropriations performance accounts and Class 59: accounts of the *Various Settlements* account class to the appropriate income and expenditure (cost) lines of the profit and loss statement – turn the payments categories to an accrual basis. The adjustments may be put into five distinct groups:

- net[8] closing value of receivables (+) (adjustment 1),
- net[9] closing value of liabilities (+) (adjustment 2),
- adjustments to accruals (+)/(–) (adjustment 3),
- closing value of stocks purchased (–) (adjustment 4), and
- other adjustments (+)/(–) (adjustment 5).

Compiling the profit and loss statement

shown above is much easier than having to keep separate accrual-based records as well as cash-based records required by the currently effective procedures. Naturally, of course this cannot act as a substitute to the public sector transitioning to a matching concept based record-keeping process. However, given the present circumstances, this is not likely to happen in the near future. In our opinion, the model described above may serve to resolve this duplicity.

SUMMARY REMARKS

Overall, it can be established that the reports of Hungarian higher education institutions show significant differences compared to the accrual-based accounting reports used in the corporate sector. In comparison, in the majority of EU and Anglo-Saxon countries, the range of accounting information provided by higher education institutions is quite similar to the information reported by companies. Supplementary information, usually based on indicators, show numerous differences, though the weight of these items is most probably the greatest with respect to the motivation of financial management and, accordingly, these differences are acceptable. As we have seen, transitioning to an accrual-basis is quite expensive, creates significant transience, which, in turn, discourages regulators.

With our empirical investigation we have proven that the users of the information featured in the reports differ from those observed in Anglo-Saxon countries. The decision-making mechanisms employed by students do not take financial/accounting data into account, and we have also shown that there is a need to transition to accrual-based accounting in the realm of higher education institutions.

In this paper we make a recommendation for a temporary solution, which enforces the accrual-based accounting approach and yet still relies on the records generated in the current cash-based system. As a result this solution does not require any serious IT developments, or the complete overhaul of the record-keeping system, yet it can create a profit and loss statement that is comparable to corporate sector profit and loss statements.

Apart from these notions, it would be interesting and useful to investigate whether and to what extent the "current" higher education reports serve transparent and clear information, and how the report used promotes competition.

ANNEX

THE RECOMMENDED TEMPLATE OF THE PROFIT AND LOSS STATEMENT

a) Net sales revenues based on the data in the general ledger
911. Incomes of public authority
912. Other incomes related to the operation of institutions
913. Other special incomes of institutions
914. Incomes from mediated services
94. Budget subsidy from the central budget
4612. Central budget support of previous year, performance of fund recovery appropriations
4622. Other budget support of previous year, performance of fund recovery appropriations
463. Transfer of residue appropriation, residual amount of previous year

b) Net closing balance of accounts receivable related to net sales	
c) Accrued income related to net sales revenues	
d) Deferred income related to net sales revenues	
I. Net sales revenue (a + b + c – d)	
1. Change in self-produced stocks	
2. Own work capitalised	
II. Capitalised value of self-output (1 + 2)	
e) Other income based on data in the general ledger 5933. Mark back of extraordinary depreciation 5952. Mark back of loss in value 931. Sale of tangible and intangible assets 464. Operating-purpose grant-like incomes 471. Receipt of operating-purpose cash instrument from outside public finances	
f) Net closing balance of accounts payable related to other income	
g) Accrued income related to other incomes	
h) Deferred income related to other incomes	
III. Other incomes (e + f + g – h)	
i) Material costs and consumables on the data in the general ledger 54. Procurement of stock	
j) Closing balance of accounts payable related to material costs and consumables	
k) Accrued income related to material costs and consumables	
l) Deferred income related to material costs and consumables	
m) Closing balance of materials	
3. Material costs and consumables (i + j – k + l – m)	
n) Value of contracted services based on the data in the general ledger 551. Communication services 552. Various service expenses 553. Public services purchased 562. Foreign visit, representation, advertising expenses 563. Other non-personnel expenses 564. Expenditure of invoiced intellectual activities	
o) Net closing balance of accounts payable related to the value of contracted services	
p) Accrued income related to the value of contracted services	
q) Deferred income related to the value of contracted services	
4. Value of contracted services (n + o – p + q)	
r) Value of other service activities based on the data in the general ledger 556. Expenditures of financial services	
s) Net closing balance of accounts payable related to other service activities	
t) Accrued income related to the value of other service activities	
u) Deferred income related to the value of other service activities	
5. Value of other service activities (r + s – t + u)	
v) Original cost of goods sold based on the data in the general ledger	
w)Net closing balance of accounts payable related to the value of original cost of goods sold	
6. Original cost of goods sold (v + w)	

x) Value of services sold (intermediated) based on the data in the general ledger
554. Services mediated within the system of public finances
555. Services mediated outside the system of public finances

y) Net closing balance of accounts payable related to the value of services sold (intermediated)

7. Value of services sold (intermediated) (x + y)

IV. Material costs (3 + 4 +5 +6 + 7)

z) Wage cost based on the data in the general ledger
51–52. Related accounts of the personal allowances account class

aa) Deferred income related to wage cost

8. Wage cost (z + aa)

bb) Other employee benefits based on the data in the general ledger
51–52. Related accounts of the personal allowances account class

cc) Deferred income related to other employee benefits

9. Other employee benefits (bb + cc)

dd) Contributions on wages and salaries based on the data in the general ledger
53. Contributions payable by employers

ee) Deferred income related to contributions on wages and salaries

10. Contributions on wages and salaries (dd + ee)

V. Staff costs (8 + 9 + 10)

VI. Depreciation
5931. Ordinary depreciation

ff) Other operating expenditures based on data in the general ledger
373. Expenditures equivalent to grants for operating purposes
381. Operating-purpose cash instrument transfer outside the system of public finances
5932. Extraordinary depreciation
5951. Loss in value
596. Credit loss on irrecoverable debt
598. Assets handed over and services provided without reimbursement, expenses without cash flow related to the charge-off of missing, scrapped or destroyed assets
571. Various budget payments
572. Taxes, charges, other payments
58. Social-policy benefits and other subsidies, social security cash benefits

gg) Net closing balance of accounts payable related to other operating expenditures

hh) Accrued income related to other operating expenditures

ii) Deferred income related to other operating expenditures

jj) Net value of tangible assets and intangible assets sold

VII. Other expenditures (ff + gg – hh + ii + jj)

A/ Income from operations (I + II + III – IV – V – VI – VII)

kk) Income from financial transactions based on the data in the general ledger
597. Outstanding debts in a foreign currency, liabilities, financial investments and the exchange rate margin of the end-of-year assessment of securities (if gain)
574. Realised exchange losses
916. Interest incomes
933. Income on financial investments

29. Securities

ll) Accrued income related to income from financial transactions

VIII. Income from financial transactions (kk + ll)

mm) Expenses on financial transactions based on the data in the general ledger

597. Outstanding debts in a foreign currency, liabilities, financial investments and the exchange rate margin of the end-of-year assessment of securities (if loss)

573. Interest costs

574. Realised exchange losses

917. Realised capital gains

918. Central budget interest incomes related to public debt

29. Securities

nn) Deferred income related to financial transactions

IX. Expenses on financial transactions (mm + nn)

B/ Income from financial transactions (VIII – IX)

C/ Profit or loss of ordinary activities (A + B)

oo) Extraordinary income based on the data in the general ledger

465. Accumulation-purpose grant-like incomes

472. Receipt of accumulation-purpose cash instrument from outside public finances

pp)Market value of surplus assets received without compensation

qq) Value of assets provided as contributions in kind as defined in the articles of association

rr) Value of liabilities cancelled

ss) Deferred income related to extraordinary income

X. Extraordinary income (oo + pp + qq + rr – ss)

tt) Extraordinary expenditures based on the data in the general ledger

374. Accumulation-purpose grant-like expenditures

382. Accumulation-purpose cash instrument transfer to outside the system of public finances

598. Assets handed over and services provided without reimbursement, expenses without cash flow related to the charge-off of missing, scrapped or destroyed assets, including the book value of assets provided as contributions in kind

575. Waiver of liabilities, assumption of debt

uu) Accrued income related to extraordinary expenses (–)

vv) Book value of assets provided as contributions in kind as defined in the articles of association (+)

XI. Extraordinary expenses (tt – uu + vv)

D/ Extraordinary profit (X – XI)

E/ Profit before taxes (C +D)

Notes

[1] Standard-setting committee such as the IASB (International Accounting Standards Board), AASB (Australian Accounting Standards Board), or the committee set up by the MKVK (Chamber of Hungarian Auditors).

[2] AAS – Australian Accounting Standard; AAS29 – Financial Reporting by Government Departments; AAS31 – Financial Reporting by Governments

[3] Accrual-based accounting has been in more wide-

spread and longer use with local local governments. By the end of the 1990s, the majority of EU Member States no longer used cash-based accounting to prepare accounting reports at regional or local government levels.

[4] In 1984, this was no more than 5 per cent.

[5] As opposed to the higher education practice of the US and the UK.

[6] Anthony (1978), Australian Accounting Research Foundation (1990), Canadian Institute of Chartered Accountants. (1980), Committee of Vice-Chancellors & Principals. (1989), Drebin et al. (1981), Engstrom – Fountain (1989), FASB (1980), Government Accounting Standards Board (1987), Jones et al. (1985), Likierman (1992), New Zealand Society of Accountants (1987, 1991, 1993), Sutcliffe (1985)

[7] Pursuant to the Act on Accounting, the profit results of sales related to securities transactions should be featured in the profit and loss statement as a net value, but in our scheme, due to the relatively small number of transactions, in line with the principle of gross settlement the income earned as a result of selling government bonds should be recognised under the income from financial transactions – based on Account Class 2: Accounts of revenue appropriation performance – whereas the book value of the government bonds sold (redeemed) should be recognised under expenditure incurred on financial transactions.

[8] In this case, net means the closing value excluding any value added tax payable.

[9] In this case, net means the closing value excluding any pre-charged, deductible value added tax.

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