

Financial Sustainability of Higher Education Institutions: A Challenge for the Accounting System

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I THE NEW SKIN OF HIGHER EDUCATION AND THE ROLE OF THE ACCOUNTING SYSTEM

Higher education has been experiencing radical changes in many countries since the 1990s, when New Public Management-inspired reforms required the introduction of managerial practices in universities. Neo-liberal policies have deeply influenced higher education institutions (HEIs) like a global phenomenon pervading Western Europe (Agasisti and Catalano 2006; Ter Bogt and Scapens 2012), East Asia (Yamamoto 2004; Poole and Chen 2009), Russia (Timoshenko 2008), Australia (Christopher and Leung 2015)

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and many other countries. Like other sectors of public administration, higher education (HE) came under pressure to become more efficient and effective, while maintaining or increasing the volume and quality of services supplied. Governments have pursued these objectives by introducing new funding mechanisms based on measurable goals; often, these policies came along with resource cutbacks.

Funding rules follow different models, such as formula funding, performance agreements and project funding. Often, a mix of the three instruments is used (Eurydice 2008; Estermann et al. 2013). According to formula funding, resource allocations depend on specific drivers, such as number of students or staff, number of diplomas issued and financial indicators. This funding methodology is the most common in Europe; often, it encompasses performance-based allocations that boost competition among HEIs and enhance the importance of performance measurement and management. Project funding is commonly, though not exclusively, used for research activities; it also intensifies competition between HEIs. In this case, however, funding decisions are based on expected performance rather than past results. With performance agreements, the government signs contracts with single institutions or with restricted groups, thus favouring the development of a more diversified HE context.

Although national policies for the reform of HE systems differ in several aspects, some common features emerge—universities and colleges are transforming from bureaucratic organisations with limited decisional and financial autonomy into hybrid organisations dealing with competition and growing requests for accountability. The traditional professional logic of academics now coexists with the managerial rationality induced by recent reforms, although tensions between the two logics persist (Christopher and Leung 2015; Narayan et al. 2017). Formal managerial control systems have progressively substituted conventional trust-based control mechanisms that were mostly grounded in unwritten rules. Traditionally, the public sector focuses on inputs and process-driven information, and implicit standards and qualitative performance indicators predominate (Ter Bogt 2008; Ter Bogt and Scapens 2012). However, since the end of the 1970s, changes have been taking place in performance management systems in the HE sector, as well as in individual universities—explicit indicators of outcome, output and quality have been introduced for strategic planning and the evaluation of organisational and individual performance (De Boer et al. 2007; Ter Bogt and Scapens 2012).

This move towards more rational managerialism in HEIs could not ignore the role of accounting systems. The pressure for improvements in efficiency and effectiveness has produced great expectations towards the shift from cash (or cameralistic) accounting to accrual-based accounting. In the public sector, HEIs are among the best candidates for this shift because of their intrinsic nature as ‘service providers’, which evokes similarities with business. Compared to business organisations, universities can be described as productive systems that combine different types of input to generate education and knowledge (Küpper 2013). In this perspective, students are no longer considered inputs to be transformed into graduates, but rather customers who receive services that are fully or partially subsidised by the government (Agasisti and Catalano 2006).

The shift to accrual accounting was driven mainly by its alleged capacity to support the financial sustainability of HEIs by disclosing the ‘true costs’ of the outputs (Blöndal 2003). The possibility of calculating financial performance and using managerial accounting techniques to compare costs with results would have permitted HEIs to improve efficiency; whereas cash-based accounting simply ignores this aspect (Bowerman and Humphrey 2001; Neale and Pallot 2001; IFAC 2005; Walker 2011). Furthermore, the European University Association (EUA) indicates the possibility of identifying and better understanding the costs of activities and projects as one of the three pillars of HEIs’ financial sustainability (Estermann et al. 2013). According to Paulsson (2006), the need for accounting information to support the performance management system was the primary argument for introducing accrual accounting in Sweden. Moreover, accrual accounting was expected to increase institutions’ transparency (Evans 1995; Christiaens and Rommel 2008), thus augmenting institutions’ accountability. Many governments introduced reforms in this direction, regardless of warnings about discordance between accrual accounting and public administration (Guthrie 1998; Broadbent and Guthrie 2008; Lapsley et al. 2009; Hyndman and Connolly 2011).

The reforms of the accounting systems in HE have aimed at enhancing the financial sustainability of institutions by stimulating the emergence of a new managerial culture oriented towards value creation through enhanced accountability, efficiency and transparency (Christiaens and Wielemaker 2003; Yamamoto 2004; Küpper 2013). In Europe, however, the shift to accrual accounting, combined with managerial accounting techniques, has had little success—different obstacles have emerged in the

introduction of new accounting techniques, and the effects of the reforms in terms of efficiency improvements and transparency have not met expectations (Christiaens and Wielemaker 2003; Venieris and Cohen 2004; Hyndman and Connolly 2011). The mismatch between expected results and the effects of HE accounting systems reform invites deeper investigation into the possible causes. This chapter aims to examine the obstacles that hinder the ability of accrual accounting to fulfil its purposes of safeguarding financial sustainability and boosting efficiency.

Most of the analyses on the issues discussed in the following sections emerged from the authors' direct ascertainment of accounting mechanisms and procedures and from semi-structured interviews conducted in 2014 with executives of the central administrative departments of 19 Italian HEIs. The authors' involvement in the process of changing the accounting systems of their 'home universities' permitted a direct observation of specific practices. Interviews were conducted to collect data for a research project on the introduction of accrual accounting in this sector, in an attempt to detect differences in the accounting treatment of specific aspects of universities' operations that result in lower financial statement comparability. The research project also sought to identify any other factors that would prevent the new accounting system from supporting universities' financial sustainability and efficiency.

The comparability of financial statements, which is one of the goals explicitly set out by the legislators in the reform, is not the goal here. This chapter focuses on how the accrual accounting system can support public entities' financial sustainability and possible obstacles to this end. The approach is essentially reflective. Some evidence obtained from the interviews aroused reflections on the opacity of HEIs' financial performance and on possible consequent misunderstandings and threats to correct assessments of financial sustainability. The points raised in the following sections may go beyond the borders of the Italian experience, since public universities around the world share some common features, including multi-annual activities (e.g. research projects); revenues, which at least partially correspond to non-exchange transactions (e.g. government budget allocations); departments and research teams striving to maintain the highest possible autonomy in defining objectives and determining resource use; high incidence of fixed expenses and highly diversified processes and technologies. Referring to the Italian case can be useful because the reform in Italy has just begun to produce results; obstacles and resistance to its full success emerged quite clearly in the first phase of implementation.

Nevertheless, the extension of the following analysis to the context of other HE systems requires caution and may stimulate international comparisons.

The chapter develops as follows. Section 2 examines how accrual accounting may support the financial sustainability of HEIs. The two subsequent sections highlight possible obstacles that the financial and managerial accounting systems may encounter in carrying out this function. The last section draws conclusions.

2 THE ROLE OF ACCRUAL ACCOUNTING IN FOSTERING HEIs' FINANCIAL SUSTAINABILITY

The International Public Sector Accounting Standards (IPSAS) do not provide an official definition of financial sustainability, although the concept is mentioned in the conceptual framework along with the additional information that public entities should provide in General Purpose Financial Reports (IPSASB 2014, par. 8.14). In the conceptual framework, sustainability is often mentioned with reference to an entity's ability to fund the delivery of services over the long term (IPSASB 2014, par. 2.11; 2.16; 2.27). Likewise, public institutions' fiscal sustainability depends on 'the ability of government to meet its service delivery and financial commitments both now and in the future' (IPSASB RPG.1 2013). Such an approach involves linking current service delivery obligations to the maintenance of current taxation levels and focusing on projected debt paths.

The short-term balance between the resources used in providing services and the resources available (i.e. collected in the period or retained in the past) represents a precondition for the achievement of broader long-term sustainability. Many public institutions, however, have limited (if any) discretion over their revenues and cannot autonomously define tax rates or fees for the services delivered. This is particularly evident for HEIs. In many countries, budget appropriations from the government are the most important revenue for universities. According to the EUA, in 2008, national and regional public funding accounted, on average, for 72.8% of universities' total revenues in the EU. Students' contributions were the second most important source at only 9.1%. In such circumstances, the ability to balance a university's mission with financial responsibility depends significantly on external subjects' political decisions. The increasing importance of funding rules that are contributing to

a quasi-market, however, assign universities more responsibility for their financial performance, considering that the latter depends to some extent on the quality and quantity of the services delivered.

According to the OECD (2004, p. 35), a university ‘is being managed on a financially sustainable basis if it is recovering its full economic costs and is investing in its infrastructure (physical, human, and intellectual) at a rate adequate to maintain the future productive capacity needed to deliver its strategic plan, and to serve its students and other customers’. This perspective suggests that the accounting system plays an important role in supporting universities’ financial sustainability. This function encompasses at least three different directions (Küpper 2013):

- Financial accounting provides important information on the nature and value of cash flow, the value of assets and liabilities, and the changes in the net values of assets and debts. Accrual-based systems, in particular, have the evident advantage of measuring all these dimensions, while cash-based systems consider only the first.
- Cost accounting provides a breakdown of the costs incurred by the head of a university, as well as by individual faculties, departments and professors.
- Activity accounting provides information on the various activities involved in education, research and services, based on different non-financial performance measures over the short and long terms.

Accrual accounting allows the assessment of an institution’s ability to cover its expenses with revenues, and this condition has to be verified in the long term. However, extrapolating financial sustainability into the future does not reduce the importance of measuring and interpreting annual financial performance. While positive margins indicate a retention of capital for future financial periods, negative margins show an excessive use of resources that affects reserves retained in the past. Universities’ institutional bodies must programme these fluctuations of net assets and should evaluate, ex-post, the conditions that led to the annual result. Interpreting the final annual result, however, is not as easy as it may seem; a negative margin, for instance, may be justified or even programmed to the extent that it is counterbalanced by measurable improvements in the services delivered. Thus, the relationship between short-term financial performance and long-term financial sustainability has to be disclosed carefully.

It is also evident that the role of managerial accounting is central to the issue of financial sustainability; however, the introduction of a system that detects the cost of services, despite its obvious usefulness, is likely to be opposed in organisations that have traditionally been managed in the name of autonomy in research and teaching and the primacy of knowledge over economic issues.

The shift to accrual accounting is considered a success to the extent that financial accounting enhances HEIs' financial sustainability and that managerial accounting provides university managers with information for decision-making and efficiency improvements. Pitfalls and opportunities on this route are discussed in the following sections. The focus is on financial and cost accounting, although other accounting issues, such as performance measurement and intellectual capital, have great relevance to long-term financial sustainability (Küpper 2013).

3 ACCRUAL ACCOUNTING, ACCRUAL BUDGETING AND THE ASSESSMENT OF HEIs' OPERATING SUSTAINABILITY: AVOIDING MISUNDERSTANDINGS AND ENHANCING TRANSPARENCY

Accrual accounting allows the assessment of the overall efficiency of an entity by comparing revenues with expenses. Net income is the most widespread and straightforward indicator of economic efficiency in an organisation. This is probably the reason most frequently cited to assert the supremacy of accrual accounting over cash and cameralistic accounting. In this respect, accrual accounting has the essential role of monitoring operating sustainability, or an institution's ability to recover costs, and generate income to cover the cost of normal operations (OECD 2004). However, the lack of a direct causal relationship between expenses and some revenues in public institutions prevents the assimilation of results of a given period with net income (Christiaens and Rommel 2008). Thus, using the margin of a period as a measure of operating sustainability is questionable. Several elements suggest caution in this respect.

The first element is inherent to the public nature of public universities due to the importance of budget allocations from the central government as revenue. The IPSASB classifies transfers from the government as 'non-exchange transactions' according to par. 29 of IPSAS 23, which dictates that universities record budget allocations from the government or other

public institutions as revenues in the periods in which they are assigned, regardless of when the resources are used. Often, by virtue of the financial autonomy allowed to HEIs, they can define the destinations of the resources obtained. Public funding to universities may be characterised by conditions or restrictions imposed by a transferor, but this is not the most frequent situation. In the EU, there is a perceptible trend, especially in Western Europe, towards the allocation of public funding through block grants rather than line-item budgets (Estermann and Pruvot 2011). Block grants cover several categories of expenditure, such as teaching, operational costs and research activities. In such a framework, universities are free to divide their funding internally according to their needs, although some restrictions may still apply.

By contrast, in a line-item budget, the government pre-allocates university funding to cost items and/or activities. Institutions are thus unable to distribute their funds, or may only do so within strict limitations. According to Estermann and Pruvot (2011), line-item budgets are used in only three European countries (Cyprus, Greece and Turkey), while all other HE systems provide universities with their basic public funding in the form of block grants, which can be autonomously divided between internal cost items and activities. Most of the funds are used to cover period expenses. However, the Italian experience shows that universities also allocate resources transferred by the central government to fund long-term projects, such as research programmes with multi-annual extensions. In such cases, the matching between revenues and expenses is not respected; the whole revenue is recorded when it is realised, while expenses are recorded in future years at the time they are incurred. This accounting treatment of public funding delegitimises the financial result of the period as a measure of economic efficiency and as an indicator of financial sustainability. Positive margins may also emerge in the financial periods characterised by partial coverage of period expenses, considering that part of the revenues gives financial support to multi-annual projects that still have to be accomplished.

The mismatch between revenues and expenses can break the equivalence between the result of a period and an institution's financial sustainability. The effect of the mismatch may be even more disrupting: the beneficiaries of the research funds may postpone some research activities due to their inability to respect the research plan, leading to the deferral of the expenses correlated with those activities and further augmenting the discrepancy in the results of the period. In this case, the final result, or part

of it, is attributable to ineffectiveness. A possible solution to this ambiguity may be the introduction of a supplemental financial statement or additional disclosure in the notes to the financial statements, to split the different determinants of the result of a period. The structure of the statement may be derived from the analysis of the possible causes of variances from the budget. In accordance with the public nature of universities, budgets authorise expenses within the value of forecasted revenues. Therefore, universities can record positive financial results only if one or more of the following conditions occurs:

- actual revenues exceed budgeted revenues and are not balanced by an equivalent increase of expenses;
- actual expenses are lower than budgeted, due to efficiency;
- revenues from non-exchange transactions realised in the period cover expenses pertaining to long-term projects; and
- departments have postponed expenses already authorised in the budget.

If the quality and quantity of services delivered reflects expectations, the first two situations indicate a virtuous performance that contributes to the long-term financial sustainability of an HEI. In the third case, the bottom line in the statement of financial performance might be positive while hiding a loss resulting from the excessive use of resources in a given year. This happens when the difference between revenues and expenses in a financial period exceeds the value of the expenses already authorised with reference to long-term projects. In other words, financial sustainability is preserved only when the income retained in reserves exceeds (or is equal to) the total value of the projects already authorised in the budget. It is therefore necessary to consider that the result of the period could lead to an ambiguous interpretation when revenues from non-exchange transactions fund long-term activities. This pitfall may be avoided by providing additional information in the notes to the financial statements.

Another issue to consider is depreciation. As indicated by the OECD (2004), financially sustainable universities have to recover the full cost, and this would include depreciation that is ignored by cash and cameralistic accounting. Thus, promoters of accrual accounting suggest that this system allows stricter control of financial sustainability because it considers the cost of depreciation as well. For the Italian universities, this was not an issue before the shift from cameralistic accounting to accrual accounting.

Investments and extraordinary maintenance of properties were occasionally funded by the government, so the budget did not consider depreciation at all. With the introduction of accrual budgeting, HEIs must balance revenues and expenses, depreciation included. Since the value of universities' properties is often huge, this is challenging for future sustainability. The recording of depreciation may result in a final loss, which is exacerbated by the possible cost duplication due to the incurrence of both maintenance expenses and depreciation (McCrae and Aiken 2000). This result would imply that universities' operations are not financially sustainable unless new capital is contributed from the central government.

These circumstances induced many Italian universities to adopt a heterodox accounting practice with the aim of neutralising the negative effect of depreciation—to balance the budget, depreciation is covered by reducing initial equity (i.e. the value of equity at the moment of the shift to accrual accounting). In the reporting phase, equity is reduced with the corresponding value of depreciation while a revenue is recorded; thus, any net losses caused by depreciation remain hidden. This is another accounting practice that adversely affects the significance of the budget and of the financial statements in assessing institutions' financial sustainability; the accounting system abdicates its role of providing stakeholders with material information. In this case, the distortion is due to a specific accounting choice developed by public entities on their own initiative and it is not a matter of technical or conceptual difficulties in implementation. Letting the loss emerge would enhance financial statements' transparency by highlighting the need to use equity to cope with the negative financial performance. In other words, showing the loss would evidence the non-sustainability of operations in the long term.

A third aspect that gives rise to ambiguity in the assessment of financial sustainability concerns research grants. Grants pertain to specific research projects and aim to cover expenses that occur due to the activities performed by research departments. However, HEIs' central administration often requires departments to use these funds to cover general expenses that do not pertain to the departments themselves but rather to the institution as a whole. Far from being related to the research project, these costs are not under the responsibility of the research group. All general expenses are already authorised in an university's budget regardless of the resources collected through the research grant, and are covered by other revenues. Indeed, HEIs balance their budgets regardless of uncertain revenues, such as prospective research grants. Consequently, in the context of

authorising budgets, when a research team receives a grant, the funds destined for the coverage of general expenses result in a positive margin. This margin contributes to the net financial result of the whole university.

Research groups tend to consider this policy as an unjustified withdrawal of resources and a restriction on their freedom to develop new research activities. The margin generated by the project could indeed be used by the central administrative department to balance losses generated by other research departments, or it may simply be intended for other purposes. Research groups would want to retain all margins they have generated through their research projects. Interviews conducted in the Italian universities uncovered a practice used to get around this problem—in some institutions, unwritten rules related to intra-organisational power relationships allow research groups to retain these resources for future activities. In practical terms, part of the grant is recorded as deferred income and does not influence the result of the period; thus, the resources remain available to the research team and cannot be used for alternative purposes. This practice reveals the clear influence of previous cash-based procedures that end up in a distortion of the economic results of universities and assessment of their operating sustainability. This behaviour reflects resistance to change—academics’ perception that the emerging managerial culture contrasts with their autonomy, stimulates reactions in favour of the re-establishment of traditional procedures and rules.

4 EFFICIENCY, COST ACCOUNTING AND THE FINANCIAL SUSTAINABILITY OF HEIs

According to the EUA, ‘to improve their financial sustainability, universities need to develop the right tools to identify the full costs of all their activities and projects’. To this end, cost accounting is expected to provide several benefits to universities and national governments—‘a more systematic approach to activity analysis and costing; a more efficient internal resource allocation; improved strategic decision-making based on better understanding of investment decisions; benchmarking possibilities within the sector and an enhanced ability to negotiate and price activities, which leads to higher cost recovery of project costs and thus contributes to financial sustainability’ (Estermann and Claeys-Kulik 2013). In Italy, HE reform (law 240/2010) introduced an obligation for universities to adopt cost accounting, stating that ‘cost accounting systems [promote] management control’. Although not directly stated, this statement is geared

towards universities' financial sustainability. The law does not provide any implementation rules for the design of a cost accounting system; the final objectives of cost allocation (e.g. processes, subunits, activities, clients), cost configuration (e.g. full or direct costing) and allocation methodology (e.g. step-down method, activity-based costing, time-driven activity-based costing) are discretionary.

Making prescriptive recommendations to HEIs for the adoption of a cost accounting system requires that the specific attributes of its environment and its organisations are identified (Bromwich and Lapsley 1997). Both environmental and organisational factors are reputed to influence the design of managerial control systems and their ability to support organisational growth (Chenhall 2003). External factors (e.g. funding model, environmental uncertainty, intensity of competition) as well as organisational factors (e.g. technology, organisational structure) should be considered when examining the role that cost accounting systems may have in supporting the growth and success of public institutions.

Realistically, the aforementioned contingent factors are relevant in HEIs. In HE, environmental factors such as the mix of incomes, the value and distribution mechanism of grants from the central government and the consequent intensity of competition, have been important drivers of change over the last 30 years (Küpper 2013). Managerial control systems (MCSs) could hardly remain immune from these influences; evidence of a strict relationship between the funding system and MCSs has been observed in Italian HEIs (Francesconi and Guarini 2017). Geiger and Ittner (1996) tested the influence of funding sources on the adoption and use of MCSs, finding that units that are legally compelled to be self-supporting also tend to implement elaborate costing systems that utilise more data sources and overhead categories, are more integrated, and employ full costing to a greater extent than units that are not subject to this rule. This would suggest that costing methodologies are not a priority in institutions in which transfers from the government account for about 65% of total revenues.

Increasing competition and uncertainty are other relevant contingent factors. In most countries, competition has intensified due to performance-based funding. Moreover, funding cutbacks that characterise the HE system in some countries generate uncertainty (Privot et al. 2017). In Italy, there is even more uncertainty because the government periodically changes the rules for allocation of performance-based funds and uses the new rules retrospectively. Consequently, choices made by universities in a

given year influence their ability to attract budget allocations from the government in the future; however, HEI managers do not know in advance what rules the government will use for the distribution of funds and what effects these may have on universities' income. Uncertainty and competition require more open, externally focused, non-financial styles of MCSs aimed at collecting relevant information from a changing environment (Chenhall 2003). Thus, university managers should choose what key performance indicators to monitor depending on the specific strategy of the institution. Universities positioning themselves in the international arena of HE should take into account the indicators used in HEI rankings as points of reference for identifying their strategic goals. On the other hand, universities in strictly national contexts must ground their strategies in the parameters indicated by the government for budget allocations. In Italy, factors such as researchers' productivity, rules of enrolment for researchers and the ability to attract students from abroad are central.

The results of teaching activities are also relevant; thus, MCSs should support managers' decisions with analyses of the evolution of demand for education. Relevant data describes the requests of graduates from the labour market and the reasons for student dropouts. The first aspect determines graduates' occupation rates and should therefore influence decisions on what degrees the university should offer. Understanding the reasons for dropouts, on the other hand, is fundamental for the improvement of teaching and auxiliary services for students.

What really matters here is that costs and efficiency are not likely to be the key competitive factors for HEIs. In Italy, when the reform introduced managerial accounting in HEIs, efficiency was not the main issue according to the competitive rules. The ministry stimulated competition exclusively through output or outcome performance measures (Aversano et al. 2017; Francesconi and Guarini 2017). Costs were simply not relevant. In this perspective, the decision to oblige universities to develop cost accounting systems is questionable. From an institutional point of view, this could be stigmatised as an inconsistency within coercive pressures exercised by the government on HEIs, resulting in a merely formal conformation of HEIs with expectations to gain legitimacy and thereby secure access to vital resources and long-term survival (Brignall and Modell 2000). The contingency approach would suggest similar deductions, albeit from a different perspective: MCSs that do not fit with environmental and organisational conditions cannot succeed in supporting the development of an organisation (Merchant and Van der Stede 2007).

Internal features of universities such as organisational structure and the technology of processes also suggest a marginal role for the cost accounting system. Organisationally, universities are highly decentralised institutions: organisational units (i.e. departments) and even academics have traditionally benefited from great autonomy, as the value of autonomy in research and teaching has often prevailed over accountability. Often, organisational units have competing interests in financial and human resources. In Italy, the introduction of the accrual-based entity-wide budget is clearly an attempt by legislators to increase budgetary participation within HEIs and use the budget as a coordinating mechanism. However, authorising expenses remains the principal role of the budget. This authorisation function, typical of public institutions' budgets (Reichard and Van Helden 2016), may produce contradictory effects by stimulating ineffective and inefficient use of resources. The incurrence of lower expenses than authorised may be interpreted as an initial overestimation of the resources needed by a responsibility centre, thus suggesting budget cutbacks in the following years. To avoid this effect, organisational units tend to use all the resources authorised in the budget, regardless of the achievement of any real benefit. This practice hinders efficiency and stimulates resource waste; thus, the fundamental purpose of the budget clashes with the aim of cost accounting.

Technology, or 'the way tasks transform inputs into outputs' (Chenhall 2003), is another internal contingent factor that is supposed to influence MCSs. Universities deliver three main products—teaching, research and technology transfer and innovation (TTI)—which are characterised by different technologies. Research and TTI are characterised by highly specialised, non-standardised processes with many exceptions, and output and outcomes are hardly predictable or programmable. Moreover, the processes often involve other subjects (such as, other HEIs or corporations), extending beyond an organisation's boundaries. Teaching implies a standardised process; however, as often happens in public administration, service providers can only partially determine the outcome of the process (i.e. learning outcomes), since the final performance also depends on the students. Traditional mechanistic MCSs based on financial controls do not suit these circumstances; tasks high in difficulty and variability are associated with low reliance on accounting performance measures (Hirst 1983).

All considerations made above lead to the conclusion that the HEIs need cost accounting systems that are tailor made for their specific con-

text, taking into account both financial and non-financial issues, and not something that is imposed by law, as in the Italian HE reform. Indeed, in Italy, an inherent inconsistency can be observed between the obligation to adopt expensive cost control systems and the contingent factors of HE, as well as between the role assigned to the budget and the quest for efficiency. This inconsistency has been remedied, at least partially, with the recent introduction of the ‘standard cost per student’ as a basis for the allocation of a large part of the transfers from the government in Italy. This measure represents the price that the government is willing to pay for the services delivered to one regular student. In particular, the standard cost considers four different costs that characterise any Italian university’s teaching process: academic staff, fixed-term contract teaching staff, administrative staff and structural overhead.

With the introduction of the standard cost per student, Italian public universities can measure the economic margins of different teaching programmes. The evaluation of the profitability of teaching activities may lead to choices (such as, the closure of resource-absorbing courses) that would be disruptive for the current model of universities in Italy; this would indicate a predominance of the financial perspective on the values that traditionally inspire academia. However, being aware that some courses produce negative margins does not necessarily imply a consequent decision to cease their provision; rather, the availability of this information obliges legitimising the continuation of resource-absorbing courses, based on non-financial outcomes that have to be monitored through appropriate non-financial performance indicators. Thus, cost accounting may play an important role, stimulating university managers to identify non-monetary goals and measure non-monetary performances that might legitimise the absorption of resources. However, universities are unlikely to adopt expensive and complex cost accounting systems if no external stimuli are introduced, such as the standard cost per student.

5 CONCLUSIONS

The HE sector has undergone rapid and significant changes in many countries. The accounting system of universities has been part of this process of change that aimed to introduce a new culture oriented towards efficiency and, ultimately, financial sustainability. However, the implementation of the reform threatens to remain ceremonial, not allowing the new accounting tools to reach their potential for change.

A primary obstacle for accrual accounting to effectively contribute to the achievement of HEIs' financial sustainability is the ambiguity that may characterise the accounting information. The accounting treatment of non-exchange transactions in organisations, like HEIs, characterised by long-term projects, results in a mismatch between revenues and expenses. The postponement of expenses correlated with research activities is not reconciled with the proportional deferral of revenues from non-exchange transactions, thus reducing the transparency of financial information. Therefore, the value of financial margins produced by universities may be misleading. This problem depends on specific accounting standards used in the public sector and could, therefore, be solved by providing further details on the nature and origin of the results of the period. Although this issue was discussed with reference only to HE, the analysis may be extended to other sectors of public administration in which institutions highly depend on governments' budget allocations. Transparency of accounting information would benefit from further disclosure providing details on the circumstances that produced the results of a given period. Moreover, ad hoc accounting standards should be adopted to discourage practices that hinder transparency of accounting information, as observed in the Italian case for the coverage of depreciation.

Another obstacle to accrual accounting accomplishing its role of supporting financial sustainability is related to organisational issues. The introduction of new accounting tools has encountered resistance from academics. In their eyes, accrual accounting conveys a managerial culture that betrays traditional academic values. This mistrust in accrual accounting may result in the conservation of practices that regulated the financial management of research projects under the traditional cash accounting system; the main consequence of this is ambiguity in the results of a period, which is the main indicator of an institution's operating sustainability. This evidence suggests the need for further research on how the organisational context influences the accounting system in order to maintain unchanged power relationships that were defined in the past.

The risk of a purely formal and rhetorical use of the new accounting tools has been amplified by possible inconsistencies inherent in the HE funding system, which induces universities to compete on outputs and outcomes and disregards costs and efficiency. This was particularly evident in the Italian case, where the discrepancy between the obligation to adopt cost accounting and the particular context of universities has been partially remedied, at least with reference to teaching activities, with the introduc-

tion of the standard cost per student. This mechanism of allocation of public funds certainly stimulates the comparison between costs and revenues in teaching activities. The Italian case suggests that when a change in the accounting systems depends on regulatory pressures, the success or failure of the reforms depends on external stimuli and pressures. Thus, the possibility that accrual and cost accounting effectively contribute to the achievement of HEIs' financial sustainability cannot be only attributed to the technical features of these systems; it rather depends even more on the coherence between the accounting system and organisational and contextual factors. While the measurement of universities' ability to be financially sustainable is a central issue in accrual-based accounting systems, the particularities of these institutions make this measurement much more ambiguous and unreliable, necessitating ad hoc adjustments.

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