Assimilating accounting innovations: lessons from Italian public universities

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Abstract

Purpose – This study aims to identify the possible sources of organizational decoupling and their effects in public universities, as they transition from cash to accrual accounting, by assessing the phases of the innovation assimilation process.

Design/methodology/approach – In order to assess the transition, we develop a framework that integrates the possible sources of decoupling with the phases of the innovation process. This framework is then applied to the analysis of six Italian public universities moving from cash to accrual accounting.

Findings – The results point to regulation gaps and adverse organizational conditions as the main culprits of decoupling behaviours in the production and use of information. Delays in the characterisation of the legal framework and ambiguities in the definition of accounting standards by the regulator are the first barriers to an effective transition. The organizational barriers, instead, depend on lack of adequate skills, over-bureaucratization, limitations of the IT systems, and organizational complexity. Such limitations generate hybrid accounting systems that jeopardize the informative function of financial reporting.

Originality/value: From a theoretical viewpoint, this paper contributes to a conceptualization of accounting innovations and reforms as processes whose impact depends on dynamics that arise and interact differently across phases. From a practitioner's point of view, it highlights the factors that may produce adverse effects during the implementation process: these may be taken into account during planning, so as to develop the appropriate remedial actions.

Keywords: Accounting Innovation; Cash Accounting; Accrual Accounting; Organizational decoupling; Public universities; Accounting innovation process; Multiple-case study

Paper type: Research paper

1. INTRODUCTION

After the fervent introduction of accounting innovations in the public sector, a significant debate ensued over their effectiveness. A growing body of literature highlights that these innovations can produce unexpected and undesired effects (i.e. Arnaboldi et al, 2015; Hvidman and Andersen, 2013; Speklé and Verbeeten, 2014), which may be due to poor implementation, limited use of the new systems, employees' resistance, and organizational decoupling (Brignall and Modell, 2000; Julnes and Holzer, 2001; Liguori and Steccolini, 2014). This study contributes to the debate by looking at the conditions that may influence such effectiveness, through a multiple case study of the transition from cash to accrual accounting (Chan, 2003; Parker and Guthrie, 1990; Pallot, 1994; Mellett, 1997, 2002; Lapsley, 1999; Lapsley and Oldfield, 2001; Montesinos and Vela, 2013; Perrin, 1998) within Italian public universities (Agasisti et al, 2015). By assuming that changes in the accounting system imply subverting the overall organizational semantics and behaviours (Liguori and Steccolini, 2011), we contribute to a better understanding of the organizational answers to accounting regimes' transitions in public administrations, with a specific focus on the process of innovation assimilation.

Various studies have highlighted how the introduction of accrual accounting has brought with it serious difficulties in implementation, at times contributing to a weakening of management systems in the public sector. This evokes the importance of exploring the organizational answers to accounting regime change, so as to uncover the weaknesses that emerge during the implementation process. By integrating relevant conceptualizations from neo-institutional and organizational theories, this study looks at the sources of possible decoupling behaviours in the face of external pressures, with a specific focus on the dynamics of such behaviours over time.

Innovations in accounting techniques were a fundamental component of the New Public Management (NPM) reforms implemented by national and local governments (Hood, 1991, 1995). These innovations aimed at making individual administrations responsible and accountable for the use of public resources: they were therefore critical tools in the practice of quantification, control, and communication of performance. Whereas they maintained the balance between cash inflows and outflows, they modified the methods whereby public administrations were meant to fulfil their accountability duties (Hood, 1995). Among such innovations, the accrual system is intended to maintain the structure of ex-ante constraints and authorizations of the previous accounting system – supporting processes of decision-making and control - and also to incorporate new dimensions which originally focused on ex-post accounting issues (Monsen and Nasi, 1998; Christiaens and Wielemaker, 2003). In fact, accrual accounting systems introduce a different concept of

accountability, where the focus shifts from cash outflows and inflows to the realm of resources' consumption.

The results of these innovations, however, were not always as expected. Several studies highlight implementation difficulties related to political or bureaucratic barriers that increase the cost or time required to implement changes (Christensen, 2002; Luder, 1992; Guthrie et al, 1999; Newberry and Parrow, 2005; Carlin and Guthrie, 2003; Hodges and Mellett, 2003), which at times contributed to weakening management systems (Gray and Jenkins, 1993; Burritt and Welch, 1997; Olson et al, 2001). Changes in Italian public accounting systems have frequently suffered from these difficulties (Jones and Mussari, 2004; Annessi Pessina and Steccolini, 2007). Neo-institutional theories identify their possible causes, noting that whenever external pressures are perceived as not functional to local operations, organisations tend to resort to merely formal change rather than real implementation, which facilitates the emergence of decoupling behaviours (Weaver et al, 1999; Meyer and Rowan, 1977; Oliver, 1991).

Most of the literature on innovation in public sector accounting focuses on accounting reforms (Hood and Peters, 2004) at the country or regional level, often in a comparative perspective (Hood, 1995; Pollitt, 2001; Hammerschmid and Meyer, 2005), or at the level of individual organizations. However, these studies do not attempt at developing a framework to understand the causes of possible reform shortcomings. Recent contributions highlight how public-sector accounting reforms require to look at accounting as a social practice, rather than as an objective and static device (Liguori and Steccolini, 2014; Christensen and Lægreid, 2007). Within the accounting literature on organizational decoupling, institutional theories are relied upon to explore the interconnections among public sector dynamics of change, particularly between accounting reforms and the contexts where such dynamics take shape (Carpenter and Feroz, 2001; Hyndman and Connolly, 2011). Such studies show how organizations use certain accounting practices to increase their legitimization, and how these tools remain mostly ceremonial or a product of social rationalization. In this perspective, the common assumption of accounting research informed by neo-institutional theory is that decoupling is a distorted organisational response to external pressures.

In recent years, however, several studies have highlighted the limitations of new institutionalism in explaining the processes whereby ideas and practices are established, disseminated, and decomposed at the intra-organizational level (Dillard et al, 2004; Ezzamel et al, 2007; Adhikari et al, 2013). Organizations may respond differently to the same environmental pressures, thereby leading to different outcomes (Ezzamel et al, 2012). This implies that they cannot be considered as monolithic entities (Yang and Modell, 2013). Studying the responses to external pressures requires

a more in-depth analysis, so as to understand the causes and implications of decoupling (How and Alawattage, 2012).

In this work, we look at the organizational answers to a form of institutional pressure – a new accounting regime – with the aim to identify the potential sources of organizational decoupling and their effects along the process of transition. In this perspective, we elaborate a model based on four phases of the innovation process and use it to conduct a longitudinal qualitative analysis of six Italian public universities. The model is used to analyse the transition process from cash to accrual accounting, so as to better understand how and why decoupling behaviours may arise, and which organizational solutions may be adopted to reduce these risks. By splitting the innovation process into four phases (framework definition; data gathering; information production; and use of information) we analyse the sources and effects of a decoupling process that leads to a persistent gap between formal rules and actual organizational practices. The results point to regulation gaps and adverse organizational conditions - especially during the first two phases - as the main culprits of decoupling behaviours in the production and use of information, which, in turn, impact on the effectiveness of the transition. More specifically, delays in the characterisation of the legal framework and ambiguities in the definition of accounting standards by the regulator are the first barriers to an effective transition. The organizational barriers, on the other hand, depend on: lack of adequate skills, over-bureaucratization, limitations of the information technology systems, and organizational complexity. Such limitations lead to the development of hybrid accounting systems, which jeopardize the informative function of financial reporting.

The paper is organised as follows: the next section presents the theoretical framework, and is followed by a description of the empirical setting and method. Section four presents the main findings which are then discussed in the fifth section. Concluding considerations together with the limitations of this work are provided in the last section.

2. THEORETICAL FRAMEWORK

Studies informed by the new institutional sociology address institutional pressures, the legitimacy of organizations, and coupling of organizational rules and routines (i.e. DiMaggio and Powell, 1983; Lukka, 2007; Meyer and Rowan, 1977; Weick, 1976; Rautianen 2010). The neo-institutional framework, in particular, is often relied upon to study the introduction of accounting innovations in the public sector (Ezzamel et al, 2007; Lukka, 2007; Nor-Aziah and Scapens, 2007; Arnaboldi and Azzone, 2010; Rautianen, 2010; Modell, 2004). These studies look at the social processes that affect the definition of reality, and, in particular, at how social interaction tends to stabilize reality

through a legitimization process (Suchman, 1995). Institutional theorists highlight the dichotomy between organizations with intrinsic efficiency and those that survive due to their ability to adapt to the ceremonial needs imposed by the institutional environment (DiMaggio and Powell, 1983). This latter category, in fact, enacts a process of decoupling that creates and maintains a gap between formal policies and actual organizational practices. In the public sector, normally, organizational rules and routines are "coupled", but rules and routines may be "loosely coupled" (Weick, 1976) or even "decoupled" to diminish internal conflict (Meyer and Rowan, 1977). Under these conditions, loose coupling of rules and routines facilitates operational flexibility and legitimacy within the organization (Lukka, 2007; Rautianen, 2010). In the context of public reforms, decoupling occurs when organizations appear to formally assimilate an innovation, though their processes are still performed according to the pre-reform approach, thereby frustrating the overall aims of the innovation itself. In fact, when organizations only imitate other actors' behaviours – thereby performing mimetic isomorphism (DiMaggio and Powell, 1983) – the effects of external pressures on their behaviours are less substantial. The formal adoption of accounting innovations helps to maintain legitimacy in inconsistent environments; such formal adoption, however, is often disconnected from the realities of actual operations (Brunsson, 1989). The cultural and social context also plays a role (Hyndman and Connolly, 2011): the experience of several countries shows the emergence of decoupling between how accrual accounting was intended to operate and how it has turned out due to differing cultural beliefs and norms in different contexts. In the perspective of unforeseen implications of change (Siti-Nabiha and Scapens, 2005), decoupling can also be the result of a complex and dynamic process of resistance to accounting change.

In order to assess organizational decoupling in the transition of accounting regimes, we propose a framework that links the potential sources of organizational decoupling (non-technical gatekeepers, ambiguity of goals and information, gaps between regulation and operations, time-consuming or expensive activities) to the phases that allow the accounting innovation to be implemented (framework definition, data gathering, information production, and use of information).

Potential sources of decoupling

The literature identifies several factors that may cause decoupling behaviours, which can be related to (1) non-technical gatekeepers, (2) gaps between regulation and operations, (3) ambiguity of goals and information, and (4) limited internal capacity for change.

The first source is related to the types of actors who impose the external pressure. Two possible categories of gatekeepers are public regulators and groups of professionals (Deephouse and

Suchman, 2008), including professional associations and scientific societies, who are legitimated to produce regulation based on their knowledge and technical skills. According to Greenwood et al (2002), in fact, professional associations play an important role in theorizing change, endorsing local innovations and shaping their diffusion. Their role is particularly influential in highly institutionalized organizational fields where professional associations play a central role in legitimating change (Greenwood et al, 2002). In this perspective, the risk of decoupling is likely to be higher when pressure is exerted by public regulators rather than by industry experts, because the latter create rules that are more consistent with the characteristics of the organizations belonging to that specific sector. Moreover, individual organizations may be more open to pressures exerted by bodies that are legitimated by their specific competences.

Research on organizational dynamics demonstrates that the fit between imposed regulations and existing organizational identities and structures affects the degree of coupling with external pressures (Dobbin and Kelly, 2007). Then, a second source of decoupling may be due to a lack of fit between the content of the regulations and the organization's operations. Whenever improvements in efficiency or effectiveness are not allowed by the new regulation, the risk of organizational decoupling increases (Meyer and Rowan, 1977). This is important in accounting regime transitions: with no previous experience of the accrual logic, operators may not understand its potential, and see only its limitations and implementation difficulties, as they do not yet possess enough knowledge to understand its possible benefits. In this context, decoupling results from a lack of coherence between accounting rules and the organizational environment (Brignall and Modell, 2000). This concerns both the merely technical dimension of the gap, and the cultural distance. In particular, organizations resort to identity resistance when the imposed change is inconsistent with their organizational identity (Modell, 2004; Lukka, 2007; Rautianen, 2010; Fox-Wolfgramm et al, 1998).

While a gap may emerge between institutional pressures and the organization, Scott (2001, p. 189) also notes that: "conflicting norms and cultural models can occur not only between institutional frameworks, but also within them. A given field may contain competing frameworks that prescribe varying forms and activities for participants". The third source of decoupling, therefore, relates to a possible ambiguity of goals and information. When the relevant regulatory scope is wide, or pressures are ambiguous, organizations interpret them in a way that enables to maintain the status quo as much as possible (Edelman, 1992). Ambiguity, in fact, negatively affects the reception of external standards, whose impact depends on the extent to which they can be integrated into the existing information system. Conversely, effective and transparent communication about the

standards and their desired outcomes facilitates this process (Miller et al, 2013). In his study on performance management and budgeting in Finnish cities, Rautiainen (2010) highlights how contending sources of legitimation affect the coupling of rules and routines. In particular, organizations are likely to experience decoupling when they encounter conflicting normative institutional pressures among decision makers. In this context, decoupling results from the attempt to maintain a rough equilibrium between inconsistent norms (Brignall and Modell, 2000).

Finally, decoupling occurs when organizations face conflicts between the coercive pressures exerted by other organizations upon which they depend and their limited internal capacity for change (Rasche et al, 2013). Such a difficulty to address change may depend on the activities performed by the organization; in particular, several authors suggest that decoupling more often occurs in organizations where information about productivity is difficult to observe and measure (Rowan and Miskel, 1999; DiMaggio and Powell, 1983; Meyer and Rowan, 1977). Furthermore, a weak coupling may occur when the innovation's adoption is perceived as expensive in terms of time-consuming implementation, higher expenses, and required increase in coordination activities. Studies on the introduction of ethical codes in developing countries, for instance, show an increase in expenses, with the related margins' reductions, that make the adaptation process unsustainable, thereby triggering decoupling behaviours (Pongpirul et al, 2006).

Phases of implementation of the accounting innovation

Given these multiple sources, decoupling behaviours and their effects can be analysed as they develop throughout the innovation implementation process, by dividing this process into four phases: (1) framework definition, (2) data gathering, (3) information production, and (4) use of information.

The process starts with *framework definition*, where a new regulation is introduced by the relevant level of government. In the context of this study, the central government defines new accounting procedures to be adopted by all public universities. In this phase, public administrations are more likely to acknowledge the need to conform when the objectives of the new regulation are clearly conceptualized, especially as the new standards require integration into existing information systems. The effective and transparent communication by public regulators on the standards and their desired outcomes facilitates this process.

Once the regulator's instructions have been acknowledged, the public administration is called to produce the correct flow of data that are needed to shift to the new accounting regime. This second phase of *data gathering* is likely to bear a high financial burden, as it requires substantial

investment to update the information systems, so that the relevant data may be produced and later transformed into the required valuable information.

The third phase of *information production* involves the transformation of accountancy data into information. This is a crucial phase, since it may be affected by low participation in the process of change, by a tendency to adhere merely to formal requirements, and by limited understanding and acceptance of the foundations of the new system. The introduction of accrual accounting requires a cultural change within units, by understanding how the additional information can be used and what are its potential benefits. Employees need to be trained in order to master the relevant new accrual accounting skills (Guthrie, 1998), and adequate control needs to be exerted (Hepworth, 2003).

The availability of information, however, does not always imply that it will be used to support the decision-making process. The final phase of *use of information* involves the effective use of the new accounting information both by the management and by external stakeholders. Once the new data are shared and accepted as reliable, they can become a vehicle for behavioural change, but they do not guarantee that such behaviour will be more effective or efficient than before. From a theoretical viewpoint, the transition from cash to accrual accounting should produce an overall improvement of the decision making process, as the previous approach proved insufficient to guarantee appropriate control of the performance of public administrations (Ball and Brown, 1968; Dechow, 1994). In this perspective, several studies have shown the information limits of cash accounting systems, compared to the opportunities offered by an accrual accounting system (Guthrie and Parker, 1990; Perrin, 1998; Chan, 2003; Anessi Pessina and Steccolini, 2007).

3. EMPIRICAL SETTING AND METHOD

This study analyses the shift from cash to accrual accounting in order to identify and understand key sources of decoupling rather than assimilation. The empirical setting is provided by a selection of Italian public universities involved in the transition from cash to accrual accounting. By effect of the national Law no. 240/2010, Italian public universities are required to substitute cash accounting with accrual accounting: the reform implies the maintenance of the previous structure of ex-ante constraints and authorizations, in terms of public finance derivative, to be combined with the new accounting system. Further regulations were then introduced to complete the initial framework. The Legislative Decree no. 18/2012, in particular, introduced the mandatory drafting of the annual budget for authorization purposes, entailing a budget of profit and loss and an investment budget. The subsequent Ministerial Decree no. 19/2014 specified that budget models were to appear within three months of the decree entering into force. However, these models were defined only later by

the Inter-Ministerial Decree no. 925 of December 10, 2015. Therefore, at the beginning each university had to figure out how to construct those budgets; the regulatory framework was later completed, and includes the budget for authorization purposes (profit and loss, and investment budgets), and the financial statement (balance sheet, income statement, statement of cash-flows and explanatory notes).

Universities shifted to the accrual regime at different times, partly due to the five-year time span required to develop the overall regulation. Eight universities participated in a pilot initiative between 2010 and 2012, whereas the last university to complete the transition did so in 2016. The main implementation process took place in the years 2014-2015, when 65 universities participated in a major experimentation. This aimed at supporting the implementation of the accrual budgetary system (the "budget initiative") by using a common software (named U-Gov) provided by Cineca, a non-profit inter-university consortium that includes 70 Italian universities, six national research institutes and the Ministry of Education, University and Research (MIUR).

In this context, we conducted a longitudinal qualitative analysis of six universities. This multiple-case study is based on data gathered from 2012 to 2016. A qualitative approach was chosen as it does not aim to establish cause-effect relations among variables, rather to determine the basic characteristics of particular modes of organization and action (Yin, 2017). In particular, the choice of a qualitative study depends on the exploratory nature of this work. The theoretical framework identifies the causes of organizational decoupling – namely, non-technical gatekeepers, gaps between regulation and operations, ambiguity of goals and information, and limited internal capacity for change – that can impact on the effective reception of external pressures. However, it is not clear how these conditions may interact with each other, and therefore affect the assimilation process of accounting innovations by individual organizations. The need to assess complex relationships, where the boundaries between a phenomenon (the innovation assimilation process) and its context (in terms of organizational conditions) are not clear, requires the adoption of exploratory case studies. Moreover, qualitative tools are potentially powerful instruments to understand organizational responses to external pressures, through their ability to gain in-depth information, and to carry out comparative analyses. The choice of a multiple-case study rather than a single-case study is due to the research objective, that is to trace a common trajectory across the behaviours of the actors involved in the adoption of the accounting innovations. This choice also mitigates the limitations of qualitative research which provides little basis for scientific generalization (Stake, 2006; Yin, 2017): whereas they are not statistically significant, the value of our results lies in their providing a multidimensional perspective that enriches the theory.

Case selection aimed at constructing a theoretical sample that reflects different types of Italian universities and different positions within the accounting change process. A combination of three characteristics was cross-referenced: university size, involvement (or not) in the pilot initiative, and involvement (or not) in the budget initiative. While size (large versus small universities) is a proxy for different levels of complexity to be managed in the transition, the other two dimensions were selected to identify universities with a varying propensity to be involved in this transition (pioneers vs followers). These parameters carry certain assumptions about their influence on the transition process. For instance, larger universities feature greater complexity, which is likely to entail higher organizational difficulties linked to the shift. Pilot entities can be expected to be relatively more inclined to innovation, and therefore more adaptive to change, so that they set an example for the universities that will follow. Similarly, those universities which participated in the budget experimentation acted as pioneers as well as suppliers of operational suggestions for effective adoption of the new rules. Table 1 summarizes the characteristics of the six universities involved; to guarantee the anonymity of the organizations involved, they have been renamed as University A, B, C, D, E and F.

Table 1: Main features of the universities involved in the study

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Information was gathered using a combination of different sources and approaches, including: structured questionnaires at the year of transition, unstructured interviews[1] after the transition, assessment of financial reporting via text-mining before and after the transition[2], direct observation, and a focus group with the administrative personnel of one of the universities involved. Finally, a documentary content analysis was conducted on both the relevant reform regulation and the internal protocols and procedures. As mentioned above, the case studies were analysed by assessing the phases of the accounting transition process, which allowed the qualitative analysis to be less dispersive, and data gathering more focused. The guiding questions used to conduct the interviews and to analyse the secondary sources are summarized in table 2.

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[1] The auditors and managers of the 'budget and management control' department of the six universities were interviewed.

[2] An extract from a wider research was used for the text mining analysis. Its framework was applied to the financial reports of the selected six universities in order to verify the persistence of a cash accounting lexicon within the explanatory notes of the first financial reports prepared according to the new accrual regime. The aim was to gain a broader understanding of the level of assimilation of the accrual logics, as well as the potential usefulness of this information to external stakeholders.

Table 2: Research protocol guiding questions

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4. FINDINGS

This section presents the findings by highlighting how they characterise each of the four phases of the transition process. In each phase, a specific focus was placed on distinguishing the signs of innovation assimilation from those of organisational decoupling, and on linking these results to the theoretical framework discussed above.

Phase 1: Framework Definition

The accounting reform was introduced through a new regulatory framework, whose documentary analysis highlights several limitations and weaknesses. Table 3 shows a summary description of these elements.

Table 3: Limits of the regulation

As mentioned above, the Ministerial Decree no. 19/2014 required the preparation of the operative budget of profit and loss and the investment budget. However, the Decree did not produce the related compilation models, with the consequence that the universities who took part in the budget initiative (A, C and D in our sample) were compelled to draft new documents with no specific indications. In addition to the initial delay, the reform introduced several potential sources of ambiguity. We refer, in particular to (1) the unspecified notion of balanced budget, (2) the explicit possibility to use, in the year of the transition, the surplus deriving from the cash accrual system (pre-reform) to balance the revenues and expenses for the period, and (3) the authorisational function of the budget of profit and loss in absence of a compulsory budget of cash.

With reference to the first point, the regulation imposed the presentation of a balanced budget without specifying the nature of such balancing. This issue opened the way to at least three potential interpretations: the first understood a balanced budget merely as the equal value of revenue and expenses of the budget of profit and losses; the second assumed a balanced budget in more general terms, analysing both the profit and loss budget and the investment budget; and the third presumed a balanced budget of profit and loss obtained by considering also some items defined according to the pre-reform cash accounting system. While the second option is the one that is coherent with the

correct accrual accounting approach, the third one is incorrect from the theoretical point of view, but is the one adopted by three out of six cases (A, C, D). This happened because of the explicit possibility, allowed by the regulation, to use the surplus deriving from the cash accrual system to balance the revenues and the expenses for the period. As for the last issue, the reform attributed an authorisational role to the budget of profit and loss, without a compulsory budget of cash. As a consequence, two out of six cases (A, D) chose not to prepare an integrative budget of cash. This happened despite the fact that a correct implementation of an accrual-based budgetary system would require, at least, the employment of a cash budget that allows the identification of the financial resourses needed to implement the planned activities.

Finally, the regulations also contained certain inconsistencies concerning the correct accounting principles and practices, whose coherence is a fundamental condition for the implementation of a solid system; this introduced a substantial gap between the regulation and the universities' operations. We refer in particular to the evaluation of research projects with the work in progress method, which were entered in the accounts with accruals and deferrals.

Phase 2: Data collection

In this phase, the administrative staff need to produce all the data that are required for the new accounting system. The main source of decoupling identified during data collection concerned the limited internal capacity for change.

Several universities sought to facilitate the transition through a series of training initiatives. The process, however, was far from uniform. Some universities - such as university C – invested heavily in training: five editions of an accounting course were supplied, with 100 hours of classroom lectures, and each edition being delivered to 30 staff members. Others – such as A, D and E - simply relied on the standard training package offered by the ministerial advisers who had drafted the decrees. Larger universities (A, C and E), with more complex systems of organizational units, had more problems in reconstructing certain information flows compared to smaller universities (B, D and F), in particular in relation to accrued and prepaid expenses, and stock and works in progress evaluation. A common element, as declared in the explanatory notes of all six universities, was the inability to establish the value of inventories according to correct accounting standards. We were expecting larger universities to invest more in training so as to reduce both organizational and procedural difficulties. However, only one among the large universities chose this path, and actually it was the one which took longest to assimilate the change (completed only in 2016).

Another problem concerned the presence of organizational rigidity due to lack of resources, an excessively bureaucratic approach to managing administrative aspects and, finally, several problems

with the information systems. As for the first aspect, a focus group with the administrative staff of university C highlighted that producing the information required for the new accounting system demanded a re-design of the organizational structure, in terms of both skills and staffing. However, financial constraints within the Italian public sector have made staff changes particularly difficult, and hiring new support staff is often not feasible. As for the bureaucratic aspect, the contractual constraints laid by the Italian legislation make it difficult to restructure the existing organization, so that the required reallocation of staff is again often not feasible. The example of contract management of external teaching staff at university C described during a focus group partly mirrors this problem: "*the office in charge pays teachers on contract according to a cash approach. Given the current organization, unfortunately, we cannot allocate staff to reconstruct the cost part for the period, for each contract, so that this can be notified to the budget office*". Finally, the newly adopted U-Gov information system cannot be used to draft a cash budget, but none of the universities involved in the budget initiative decided to develop it toward alternative tools. They tried instead to offer an interpretation of the budget of profit and loss in terms of cash flows. Interviewees at all six universities stated that they adopted a 'mixed' accounting method. More specifically, when answering the question: "How do you interpret the concept of budget balance required by the legislation?", the administrative manager of university A replied: "*the budget balance is interpreted as the balance between cash inflow and the sum of cash outflow, investments, and coverage of mortgage capital share. We do this because we need to comply with the basic public accounting principle of cash balancing*". He continued: "*(In our budget) cash rather than accounting values deriving from resources available in previous financial years can be brought forward to balance the subsequent financial year, to cover cash flows for the year*". Similarly, the administrative manager of university B notes: "*The budget of profit and loss was balanced using a specific fund labelled 'Charges for the transition to accrual accounting' where previous savings had been set aside.*" He continued: "*The investment budget was balanced using a cash outflow forecast resulting from our internal budget, in order to ensure break-even*". Finally, for university F: "*The presumed income was quantified, added to the unallocated surplus from previous financial years, and used to cover the presumed costs*". These comments underscore a persistent overlapping of the accrual and cash logics, where financial surpluses from previous years are used to compensate for costs and losses, together with a limited understanding of the meaning of the revenues and expenses amounts contained in the budget.

Phase 3: Information production

The ambiguity of the legislative framework, associated with the organizational barriers that emerged during the information gathering phase, led to decoupling during the third phase. Such a decoupling behaviour was further reinforced by the existence of a gap between the regulator's requests and the actual capacity of the university staff to transform data into information according to the accrual approach (*limited internal capacity for change*).

While the accounting documents, and the financial statements produced for publication in particular, appear formally to be correct, they nonetheless conceal decoupling behaviours. They appear to reflect the adoption of the required evaluation criteria, but a detailed analysis reveals that the relevant accounting standards are not always applied correctly. Some discrepancies emerge when reading the accounting manuals produced by the universities. Table 4 shows these discrepancies in the case of university C, as they refer to incorrect treatment of ministerial funding, professional services contracts, and patents and intellectual property.

Table 4: Discrepancies between the manual and the correct accounting treatment

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The queries submitted to the Ministry of University and Research website and available in the FAQ section[3] also highlight the difficulties in applying the new criteria, along with a lack of sufficient relevant knowledge. For example, university C posted the following question: "*While a patent cannot in itself constitute a sufficient reason for entering an intangible asset (...), may we assume the cost of registration for patents for which licenses are active as a criterion to establish the value for the first balance sheet? Would it be admissible to use income from royalties to cover amortizations*?".

The most emblematic case where organizational decoupling emerged was during a presentation of the financial report by an administrative manager: when commenting the slides - correctly produced according the accrual accounting approach - the manager continued to refer to cash outflows, residual assets and expenditure commitments, as if still commenting a document drafted with a cash logic. It was therefore clear that there was little command of either the logics or the terminologies used in the new accounting system. This trend was also highlighted in the lexical analysis of the descriptive notes attached to the accounting documents. In particular, we can see how in the first year after the adoption of accrual accounting cash terms are still used to describe accrual

[3] DM 578/2014 established a commission for university accrual accounting, performing functions such as supporting the Ministry, and providing a section within its website where universities can pose questions to the commission.

phenomena. The text mining analysis of the explanatory notes of universities E and F, for example, highlights how in the year of transition there is a lack of references in the comments to the typical terminology of the accrual logic, even when commenting on statements of assets and liabilities and profit and loss accounts. There are also references to the old cash logic, as reflected by the use of the typical lexicon of this system.

Phase 4: Use of information

The use of information to support decisions also encountered difficulties in our sample. It follows that, as far as the use of the accounting information is concerned, there is a significant discrepancy in the whole budgeting system.

By authorizing only expenses related to the budget of investment and the budget of profit and loss, and in the absence of a cash budget, universities are unable to monitor the cash flow as a whole. For example, in this perspective, they lose control over repayments of debts and accrued expenses. A coherent budget system, in fact, would include – together with the budget of profit and loss and the budget of investment – a cash budget, and the authorization requirement should affect only the cash budget. As the regulations impose an authorization requirement on the budget of profit and loss, there is a loss of meaning for the forecasting and control instrument which the budget is meant to represent, thus losing the possibility to truly monitor cash inflows and outflows, and to make important management instruments available as a support to governance. Indeed, the analytical accounting system does not perform its inherent functions, and is used merely as a system to feed in the values that are required in advance to construct the budget. Difficulties in the evaluation of specific items do not allow the correct production of information, and this affects the actual usability of such information for any kind of decision-making process.

Such difficulties may take different forms at different levels. In the case of university F, for example, the administrative director at the departmental level asked: "*Where can I find the values that are required to quantify deferred expenses?*"; at the same time, the administrative director at the overall university level asked: "*How can I register our revenues according to the new regulation if I don't get the required information from the departments?*" In other words, the impossibility to produce information as required creates problems at different levels for internal users. This, in turn, reduces the overall informative power of financial reporting also for external users.

5. DISCUSSION

Dividing the process of innovation implementation into phases allows to make a clear distinction between the sources of decoupling and their effects. More specifically, the sources can be linked to the first two phases, while the effects emerge especially during the final phases, as represented in Figure 1.

Figure 1: Organizational decoupling: sources and effects

Several causes of decoupling emerged in the phase of framework definition. The first source refers to the ambiguity of goals and information (Scott, 2001; Edelman, 1992; Miller et al, 2013; Rautiainen, 2010; Brignall and Modell, 2000). In particular, the unspecified notion of balanced budget, the explicit possibility to use, in the year of the transition, the surplus deriving from the cash accrual system (pre-reform) to balance the revenues and expenses for the period, and the authorisational role of the budget of profit and loss without a compulsory cash budget pushed towards a mixed approach, joining together some elements of the cash approach with others typical of the accrual approach. A second source of decoupling is related to the introduction of accounting standards that are not coherent with the correct accrual practices and the context of public universities, with the resulting substantial gap between the regulatory framework and the actual operations (Dobbin and Kelly, 2007; Meyer and Rowan, 1977; Brignall and Modell, 2000; Fox-Wolfgramm et al, 1998). We refer in particular to the evaluation done according to the logic of works in progress to order, but entered in the accounts with accruals and deferrals.

The overall result was the creation of a dual track, none of which can satisfy the knowledge purpose for which it was established. In this case, in particular, the accrual logic is subverted, leading to a mixed accounting system where cash and accruals are combined, where the former loses the ability to control current cash flows, and the latter loses its potential to offer different information. In particular, asking universities to maintain a balance between cash inflows and outflows is conceptually correct and desirable, but the document allowing such control is the cash budget, which is not compulsory by law. While understanding, in procedural and operational terms, some of the motivations which led to the adoption of this hybrid system, the use of the mixed accrual accounting system creates distortions. The first one concerns the incorrect determination of income and expenses values and, consequently, the net income for the year. The second effect concerns the control of cash payments that, under such conditions, cannot be granted. Finally, the comparison of estimated and actual data is made technically impossible as, in some cases, these are determined according to different valuation logics. Whenever an accrual-based budget is drafted by adopting a

mixed accrual criterion, its usefulness is greatly weakened, with negative implications for the whole information and accounting system. The document loses its significance as an instrument to measure consumption in advance during the accounting period, commensurate to the capacity to reintegrate such wealth in the same period. This aspect is particularly important for public universities that obtain most of their revenues from Government funds.

Another set of obstacles lies both in the data gathering phase and in the production of information phase, and concerns individual universities and their substantial limitations in absorbing changes (Rache and Gilbert, 2013; Rowan and Miskel, 1999; DiMaggio and Powell, 1983; Meyer and Rowan, 1977; Pongpirul et al, 2006). In particular, organizational shortcomings cannot be solved merely by training administrative staff for the new system, but rather require the redesign of the underlying bureaucratic logics. At the same time, organizational complexity makes the process of transition more difficult. The habitual practices of cash accounting had an impact in most of the cases under study, as they were still deep-rooted in the background of the individuals with decision-making responsibilities, which made the process of change neither easy nor immediate, and often not fully implementable.

The effects of these limitations are also felt in the phase where information is transformed into data. The decoupling behaviours adopted by the staff drafting the documents are involuntary rather than deliberate. This is demonstrated by the frequency of incorrect adoption of accounting standards in the internal accounting manuals, and also by the production of documents drafted with an accrual logic but which are commented using cash terminologies and logics. The results highlight that universities are not responding adequately to external pressures: they choose decoupling strategies because these are less burdensome than adoption. As they are not prepared to match the accrual logic to the cash logic, they tend to mix them.

Such (involuntary) behaviours impact on the overall quality of financial reporting and of the budgetary system, limiting its primary function of supporting the decision-making process of external and internal stakeholders. The assumption underlying the shift from the cash to the accrual system is that the former does not guarantee appropriate control of the accrual and financial performance of public administrations. NPM emphasizes management responsibility and continuous improvement in public administrations, and this requires the accomplishment of a stable financial balance, the search for quality in service provision and, in particular, higher transparency and publicly accountable institutions. In the context of universities, in particular, interested users of information include university employees, resource providers, external citizens, analysts and media.

A lack of quality of financial performance communication leads to a lack of information transparency, and this limitation makes public sector accounting information ineffective.

Our analysis does not produce evidence of the specific source of decoupling, as identified by the literature, that is linked to non-professional gatekeepers. This may be due to the fact that managers and administrative personnel within universities appear not to be particularly interested in who was involved in the drafting of the regulatory framework at the ministerial level, and therefore whose competences and expertise were drawn upon. This is not unexpected in a regulation-driven context that is strongly influenced by the Italian approach to NPM - historically depicted as legislation-driven, top-down, prescriptive and comprehensive (Anessi Pessina and Steccolini, 2005) - where public organisations are used to receiving detailed guidelines and frameworks.

6. CONCLUSION

Grounded in the debate on the effective transition of public administrations from cash to accrual accounting, this work aimed to contribute to a better understanding of the organizational answers to accounting regimes' transition, with a specific focus on the innovation adoption process. The results from the analysis of the Italian universities contribute to the literature by confirming that the shift to accrual accounting has not produced, thus far, the expected benefits, but rather several difficulties at different levels. These difficulties range from technical quantifications to the organizational challenges of allocating human resources and know how as needed to support the shift.

This study adds to the extant literature by formulating a four-phases framework for the analysis of the accounting innovation process. This framework is then applied to a longitudinal analysis of the accounting systems' transition within a selection of Italian public universities, so as to explore different signs of decoupling with their related sources. The study highlights the first two phases where decoupling behaviour is generated, a third phase where its effects are manifested, and a final phase where such decoupling impacts on the informative aptitude of financial reporting. The first source of distortion is a delay in the definition of the legal framework, coupled with regulatory ambiguities in the definition of the accounting standard. The second source depends on individual universities' answers to the reform. In this case decoupling behaviours are due to a lack of relevant skills, an over-bureaucratization in the management of human resources, certain limitations of the information technology systems, and high organizational complexity. These decoupling behaviours, however, seem to be involuntary rather than deliberate.

These shortcomings can be read within a broader lack of accounting culture within public universities. The explanatory notes to the accounts of a for profit organization would never show that inventories were not valued due to an "impossibility to quantify" them. Similarly, the administrative manager of a company would never state that the budget of profit and loss was drafted according to a mixed accounting criterion; no profit and loss account or budget form would take into consideration the possibility of using cash surplus among its entries. Finally, accruals and deferrals in a for profit organization are used to account for income items earned according to time and are placed between two or more administrative periods: we could not imagine using them to account for work in progress to order. In light of these considerations, the cases under study suggest that a lack of accounting culture may presumably be found also in the individuals who drafted the relevant legislative provisions.

As it draws attention to these shortcomings, this work points to the actions which can be taken in order to reduce their impact or, whenever possible, their occurrence. A first aspect relates to the role of technical and managerial competences at different levels. At the policy-making level, accounting experts from academia and other organizations should be involved to a greater extent in the planning phase, so as to contribute beyond the technical aspects. Public management and organization experts can contribute to the implementation phase, so as to facilitate effective innovation adoption. At the organizational level, adequate training plays a key role, but the possible impacts of innovations need to be taken into account during the design process, so as to plan for effective remedial measures as needed. For instance, if the shift to a new system transforms the semantics, as it happens in this case, the new semantics need to be explained to the people involved. Investment on the development of an accrual culture is needed. Training must include not only the new rules, but also the reasons for the shift to the accrual system, with a particular focus on its benefits.

In practical terms, by suggesting to split the innovation adoption process into four phases (framework definition; data gathering; information production; and use of information) this multiple case study allows to better understand where the main problems lie, what are the related consequences, and how they can be addressed. This holds not only for accounting transitions and not exclusively for the Italian contexts, but may also apply to similar processes of implementation of performance management systems. Such a framework may be a valuable tool both preventively, at the design stage, in order to identify possible failures in the innovation implementation process, and also during the implementation process itself, so as to detect emerging complications and their ramifications. This is crucial to ensure, for instance, that any accompanying measures – such as the

less than effective training of university personnel in our study – do in fact reach their intended objective in support of innovation adoption.

In summary, this study contributes to the wider debate on the organizational answers – and the related corrective tools, as required - to the introduction of accounting innovations and performance management systems in public organizations. The thrust of the paper, and its primary contribution to the accounting literature, is an illustrative multiple-case study analysis that extends the theorization of decoupling.

From a theoretical viewpoint, it contributes to the conceptualization of accounting innovations and reforms as processes whose impact depends on dynamics that arise and interact differently across phases. The shift from cash to accrual accounting took place in Italian universities later than in other countries, and also later than in other Italian public administrations: lessons from previous experiences were not sufficiently considered, while better technical support would have produced rules and procedures that were suited to public universities in the Italian context. This includes, for instance, better identification of the types of budget to be produced, or of the techniques to be used for the quantification of certain items. A fruitful exchange should be established between academic accounting experts on one side, and policy-makers on the other.

From a practitioner's point of view, this work highlights the factors that may produce adverse effects during the implementation process: these may be taken into account during planning, so as to develop the appropriate remedial actions. However, the proposed framework may be of use also during implementation itself, so as to monitor possible weak links that may lead to unintended consequences. Innovation assimilation should be supported, especially when the shift is rapid and involves relatively rigid and bureaucratic organizations. In this perspective, training and experimentation become of critical importance.

The limitations of this study refer, first, to its qualitative nature that constraints the possibility to generalize its results. On the other hand, this work highlights the role of several elements which can further be tested through quantitative analyses. A second limitation concerns the specificity of the research context. The six case studies considered in this work are specific both in terms of sector (public universities) and country (Italy), with the implication that the results may be strictly related to this specific institutional contest. Further research can be conducted to evaluate cross-sector decoupling behaviours throughout the accounting innovation phases, so as to confirm similar difficulties or to highlight differences. Moreover, this study aimed to identify common trends in different organizational contexts: additional research may focus on differing answers to external pressures towards the adoption of accounting innovations. In a contingency perspective, future

studies may address the effects of different organizational configurations on decoupling behaviours. As for the circumstance of Italian public universities, the effect of time on the assimilation process will be clearer once the transition will be concluded for all universities.

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Table 1: Main features of the universities involved in the study

University	Size	Year of application	Pilot	Budget
A	Big	2011	Yes	Yes
B	Small	2011	Yes	No
C	Big	2016	No	Yes
D	Small	2012	Yes	Yes
E	Big	2013	No	No
F	Small	2011	No	No

Table 2: Research protocol guiding questions

Process phase	Guiding questions	Main sources
Framework definition	Does the regulation include all the information required to move towards the	Assessment of the reform's regulation. Unstructured interviews at year 1 and after the transition.
	Is the relevant regulation clear?	
	Is the regulation coherent with the main principles and standards of accrual accounting?	
Data collection	How has the transition affected the information system?	Semi-structured interviews at year 1. Unstructured interviews at year 1 and after the transition. Focus Group
	How do you address the needs for new data collection?	
Information production	Did you capture the overall significance of the accrual approach?	Semi-structured interviews at year 1 Unstructured interviews at year 1 and after the transition. Direct observation
	Do you think the accrual approach is more informative than the cash approach?	
Use of information	Is the accrual accounting information useful for internal decision making processes?	Semi-structured interviews at year 1 and unstructured interviews after the transition.
	How does the accrual accounting regime offer support for decision-making by the CEO, Board of Directors…?	

Table 3: Limits of the regulation

Document	**Criterion used for the universities**	**Correct Criterion (according to accounting principles)**
Budget	To absorb unbalanced issues, previous year surplus can be used.	Correlation between income and costs for the period, impossible to use surplus items accrued in previous periods.
Financial report - Balance Sheet	Evaluation done according to the logic of works in progress to order but entered in the accounts with accruals and deferrals.	Accounting with assets and liabilities and profit and loss account items for works in progress to order.
Budget	No cash budget.	Cash budget for authorisation purposes so as to monitor income and expenses.
Budget	Authorisational nature of the budget of profit and loss.	The budget of income and loss is used to forecast consumption and reintegration of wealth, it cannot match a financial dynamic.

Figure 1: Organizational decoupling: sources and effects