Trial of strength on profitability calculations: Insight on intra-accounting variation in a social housing organization

Abstract

Purpose – This paper examines the intra-organizational construction of profit at responsibility centers level, how these cost calculations are challenged, and what is the role of accountants therein.

Design/methodology/approach – This paper analyses profit calculation in a public social housing organization that experienced a period of NPM. Participant observations, archives and interviews inform the study, over a period of three years that allowed access to day-to-day practices of accountants and other professional.

Findings – The study provides an empirical analysis of intra-organizational profitability, showing how cost calculations influence the level of profit at responsibility centers level. This study examines trials of strength of long-existing profitability calculations. We found that accountants held competing views on how to treat labour costs. Some of them form part of anti-programs during a trial of incompatibility, while other were program defenders. We also provide evidence of the stable nature of an established system and its capacity to resist the claims of an adversary spokesperson in trials of strength. The concept of trial of incompatibility proved helpful in showing how the actor-networks within Omega, played out the tension between profit orientation and the social mission of offering affordable dwellings.

Research limitations/implications – The paper provides rare qualitative data on intra-organizational profitability.

Practical implications – We suggest that profitability calculations are not only influenced by the economic context but also by different views of organizational actors on how to calculate profit. We also suggests that these calculations would benefit from a more detailed and explicit documentation. Finally, we provide further evidence of the complexity of the public social-housing sector. This research points to a departure from the mission of public social housing in the face of NPM reforms and further questions the compatibility of a profit orientation with provision of affordable dwellings.

Originality/value – The findings show intra-accounting variation regarding a specific element of profit calculation (labour costs), relating to wider organization's mission and status.

Key words: profitability, intra accounting variation, trial of strength

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1 Introduction

Despite its importance for contemporary organizations, the concept of profit is problematic (Hines, 1988, Lukka, 1990, McSweeney, 1997, Morgan, 1988). Accounting research has outlined its contingent nature (Bryer, 2006, Bryer, 2000, Toms, 2010, Toms, 2005, Sombart, 1916), considering different ways of calculating it, analysing various influences on profit calculations (Bryer, 2000, Bryer, 2006, Sombart, 1916, Toms, 2005, Toms, 2010), and highlighting the potential malleability of externally reported profits (e.g. Griffiths, 1992, Sherman and Young, 2001). Furthermore, there is also a long tradition in sociological research that examines how broader historical and economic contexts have led to the development of specific measures for profitability (Toms, 2010, Miller and Napier, 1993). More specifically, management accounting is concerned with the detailed contribution of responsibility centres to the overall profit (Lukka, 1990). This contribution (i.e. the amount of profit generated) depends not only on each centre's revenue but also on how costs are allocated to these centres (i.e. wider costs calculations). Contributing to this research, this paper focuses on the different views that organizational actors (and accountants in particular) may have on profit calculations at the level of responsibility centres.

Profit is not only crucial for private sector organizations, but has also become increasingly important for public sector organizations due to new public management (NPM) reforms (e.g. Guthrie and Parker, 1999, Hood, 1995, Hoque et al., 2004, Humphrey and Guthrie, 2001). Indeed, by introducing profit-related goals and private-sector accounting tools, NPM reforms put profitability at the centre of academic and public focus (Broadbent and Guthrie, 2008, Guthrie and Parker, 1999, Hood and Peters, 2004, Hood, 1995, Marsh, 2004, Walker, 2000). Regarding these issues, social housing is a promising and underexplored area of investigation (Collier, 2005, Collier, 2008). The managerialisation history of this sector and its context marked by multiple stakeholders' interests (Collier, 2005, Collier, 2008, Manochin et al., 2011, Smyth, 2017), are particularly relevant to study profitability in its various forms. This sector allows indeed for the study of the techniques mobilized to pursue and calculate profitability, while also acknowledging its legitimacy, its social constituencies, and the various interests surrounding it (Smyth, 2017, Collier, 2005, Collier, 2008). Therefore, this paper focuses on detailed profitability calculations in the social housing public sector.

Several studies have examined the fabrication of new accounting tools (Andon et al., 2007, Briers and Chua, 2001, Chua, 1995, Preston, 1992, Preston et al., 1992). These studies underscore how management accounting tools are challenged by different networks of actors regarding, for instance, the quality of the data they provide (Andon et al., 2007) and their suitability for a public sector organization (Preston, 1992). These studies point to competing networks between accountants and professionals (Lowe and Koh, 2007, Andon et al., 2007) while little is known about conflicts that can occur within accounting networks (Lowe and Koh, 2007). Relying on this research and aiming to extend it, we seek to answer to the following research questions: *how is profitability generated at the profit centre level, how are these calculations challenged, and what is the role of accountants therein*?

For this purpose, we use the notion of trial of strength (Callon, 1986) to conceptualize how accountants hold competing views networks, argue on the way profitability should be calculated. We therefore aim to unpack profit calculations that are considered as black-boxes (i.e., taken for granted and generally accepted within the organizational realm) (Lowe, 1997, Lowe, 2000, Lowe, 2001), by focusing on their problematization and related trials of strengths (Callon, 1986). Our analysis is informed by the findings of a longitudinal field study carried out on a French public social-housing organization. We collected data through an in-depth qualitative field study. Specifically, we conceptualize data based on debates surrounding the calculation of sub-unit contributions to overall organizational profitability, notably examining trials of strength surrounding black-boxed profit calculations while focusing on the role that accountants play therein. The findings offer insights into how different modes of calculation compete against one another, revealing further that accountants can belong to different competing networks.

The contributions made by this paper are threefold. First, this paper provides an empirical analysis of intra-organizational profitability and of how cost calculation methods influence the cash flow applied at profit centre level. We provide further evidence of the complexity of the public social-housing sector and, how difficult it is for accounting, to represent the different interests of actors within this sector (Collier, 2005, Collier, 2008, Smyth, 2017). Second, this study contributes to research on competing views of accounting calculations (Ahrens, 1997a, Ahrens, 1997b, Miller and O'Leary, 1993, Mouritsen, 1999, Preston, 1992). In contrasting previous research emphasizing that competing views often arise between accountants and other professionals (Ahrens, 1997a, Ahrens, 1997b, Miller and O'Leary, 1993, Mouritsen, 1999, Preston, 1992, Lowe and Koh, 2007), we observe that accountants may vary and adopt competing views of accounting calculations. Third, this study contributes to the accounting research on fabrication (Andon et al., 2007, Briers and Chua, 2001, Preston et al., 1992). The findings of this study provide valuable insights into how taken for granted profitability calculations are the result of multiple influences over time. Complementing previous research (Mouritsen, 1999), we show how struggle around the mission and the status of OMEGA is crystalized in debate about treating labour costs as indirect costs or tracing them. We show that this goes far beyond a simple cost calculation but related to the complex questioning of a profit orientation with the social mission and public status of OMEGA. We also add to the accounting research on trials of strength (Bourguignon and Chiapello, 2005, Briers and Chua, 2001, Gendron and Barrett, 2004, Tremblay and Gendron, 2011) by documenting the resistance of black-boxed profitability calculations to an incompatibility trial (Christensen et al., In press), with two mutually exclusive options of how to handle labour costs.

The paper is structured as follows. Section 2 reviews the ANT (Actor Network Theory) based literature on accounting systems, and section 3 presents a theoretical background. Section 4 describes the research methods used, and section 5 presents our findings. The final section provides a discussion and conclusion, including limitations and avenues for future research.

2 Literature review

In the management accounting literature, numerous studies build on ANT (e.g. Baxter et al., 2018, Briers and Chua, 2001, Busco and Quattrone, 2018, Chua, 1995, Corvellec et al., 2018, Justesen and Mouritsen, 2011, Lowe, 2001, Lowe, 2000, Robson, 1992). Robson and Bottausci (2018) argued that ANT contributes to our understanding of accounting in several ways. Importantly, ANT enables the conceptualization of the materiality of calculations, which lie at the heart of accounting practices, by providing researchers with vocabulary with which to disentangle the various elements that compose accounting calculations and to analyse the fragile and changing nature of accounting systems (Andon et al., 2007, Briers and Chua, 2001, Preston, 1992). From the large body of accounting literature drawing on ANT, two main streams of research emerge (Alcouffe et al., 2008, Lowe, 2000). The first stream focuses on the roles played by accounting innovations, once considered black boxes, developed in society and organizations. This stream concerns how accounting technologies can, once created, and established, "act at a distance" thanks notably to inscriptions, i.e., accounting figures manufactured (Bloomfield and Vurdubakis, 1997, Ogden, 1995, Robson, 1992). The second stream addresses the fabrication of accounting systems (Preston, 1992, Chua, 1995). Several studies focus on how management accounting systems (MASs) are produced, modified, and accepted (Chua, 1995, Briers and Chua, 2001, Preston, 1992, Quattrone and Hopper, 2005, Robson, 1992). These studies tend to emphasize the examination of accounting systems before they are settled (Preston et al., 1992), thereby tracing the fabrication of a system as a black-box.

This research has examined the fabrication of different management accounting tools, including performance management (Andon et al., 2007), budgets (Preston et al., 1992), and costing (Briers and Chua, 2001). Andon et al. (2007) examined the fabrication of a balanced score card (BSC) to theorize about accounting change. They observed the process through which a profit centre fabricates new performance measures. During this process, the authors found networks of actors to challenge new measures on different grounds, i.e., doubting underlying data integrity or highlighting data consistency issues. Measures were then debated, refined, and rated regarding their suitability to different objectives and interests. The authors observed that the BSC was undergoing various experiments without ever being stabilized due to various doubts and objections. Similarly, Preston et al. (1992) showed how budgeting is not a predetermined and fixed entity. Focusing on an emergent budgeting system, they examined how budgeting was defined, modified, discussed, redefined, and developed in the NHS. Similar to Andon et al. (2007), they showed that the accounting system did not become an established fact. The fabrication of the budgeting system encountered various obstacles from doctors not being convinced of its usefulness to managers not having sufficient time and resources to defend it. The sceptics argued that responsibility budgeting would involve making changes to the hospital's modes of operation, which they did not support. This study stresses the difficulties associated with introducing a privately oriented management technique to a public-sector organization. The study thus stresses how accounting tools in a public sector context are particularly fragile and often cannot achieve black-boxing to prevent an organization from undergoing changes.

Also studying the implementation of budgeting in the healthcare sector, Lowe (2000) focused on a specific hospital. The generated results, however, differ; various users from the clinical and managerial side enrolled in implementation, leading the accounting tool to eventually become black-boxed. Lowe also acknowledged technical complexities of accounting that characterise hospital settings due to the nature of specific clinical activities. He observed that building a classification system (i.e., the casemix) required the creation of a new profession of coders and the emergence of a specific accounting practice. Lowe observed that the entire casemix system, drawing on other systems (e.g., costing, billing, and IT), could be regarded as "a sequence of black-boxes". Interestingly, the study suggests that the complexity of such a system may reinforce the process of its black-boxing. Indeed, neither clinicians nor managers had specialist knowledge of coding, but they used information from the casemix system, thereby accepting it.

Briers and Chua (2001) found contrasting insights from their study on the implementation of an activity-based costing (ABC) system in an Australian manufacturing company (Alroll). The study describes how the ABC system was initially declared successful but was later replaced with another system. Conceptualizing this implementation as four trials of strength, Briers and Chua (2001) suggested that the acceptance or rejection of a new MAS is not only the result of upper management commitments but also the result of the involvement of a variety of "local" and "cosmopolitan" allies. Their study shows that innovation fails when actors do not perceive such innovation as an obligatory point of passage to achieving their goals and, therefore, do not attempt to have innovations succeed. To become accepted and "true", MASs must hold together and stabilize diverse facts and interests of involved allies.

While offering interesting insights on how accounting systems are fabricated, accepted, or eventually rejected, these studies remain focused on the implementation process. They focus on how, once accepted, an accounting system becomes black-boxed (Lowe, 1997, Lowe, 2001). Thus, scant attention has been devoted to their potential reopening (with a notable exception of Lowe and Koh, 2007). Lowe and Koh (2007) examined how an existing accounting system is problematized, and subjected to a trial of strength between accounting and production departments. In their analysis, accountants tried unsuccessfully to colonize the production space and to prepare it for representations of production costs and efficiencies through a proposed standard cost calculation. Attempts made to apply accounting logics in a rigid manner failed to convince production managers. Eventually, accounting was reduced to a peripheral activity forced to accept inscriptions from production staff rather than imposing its own understandings. The researchers suggested that, in their case, accounting had lost ground to production due to a reluctance to give up a pretence of accuracy in accounting reports. The accountants had positioned themselves as able to represent faithfully the profitability of the production process to management.

Interestingly, Lowe and Koh (2007) pictured the accounting network as including the accounting department and all individuals within it together with software and computer systems and accounting reports and their respective users both within and outside of the organization (including the external auditors). The study shed light on competing claims for the legitimacy of organization representations made between accounting and production. Previous accounting studies have also documented similar competing views between professionals (Kurunmäki, 2004, Ahrens, 1997a, Ahrens, 1997b, Mouritsen, 1999, Miller and O'Leary, 1993). For instance, Kurunmäki (2004) in her study of the adoption of accounting tools in the NHS shows that the medical profession has sought to resist accounting expertise to enter the medical field. This study points to the competing views between the management accounting and the medical profession. While this literature offers interesting insights on opposition between accountants and others professional groups, we suggest that it could be worthwhile to investigate further whether accountants can support competitive claims.

Furthermore, most research on accounting fabrication has viewed accounting systems as a unique black box. However, accounting systems may benefit from being considered multiple black-boxed opaque facts (Lowe, 2000). Indeed, Lowe (2000) recommended overcoming such a monolithic conceptualization, as while some elements of accounting systems are at the point of reaching closure, many have already been “closed” for some time (Lowe, 2000), while others are in the process of being problematized (Lowe and Koh, 2007).

To address the above gaps and in responding to the call for further research on black-boxed systems (Lowe and Koh, 2007, Robson and Bottausci, 2018), this study examines an existing accounting system that has been implemented and taken for granted for several years. In particular, the study focuses on the problematization of certain elements of these profit and cost calculations and on how they may be reopened while undergoing trials of strength (Callon, 1986). The paper seeks to answer to the following research question: *how is profitability generated at the profit centre level, how are these calculations challenged, and what is the role of accountants therein*? To do so, we specifically focus on how different calculations, in terms of costs and profits, emerge and compete through these trials of strength, thus adding to the scant research on how different profit centres contribute to an organization's profits. In doing so, we answer recent calls (Robson and Bottausci, 2018) for further contributions to ANT accounting studies.

3 Conceptual framework

In this paper, we examine the reopening of a black-boxed accounting system rather than focusing on an accounting tool's success or failure (Alcouffe et al., 2008, Briers and Chua, 2001) or initial fabrication (Preston et al., 1992). To do so, we apply the sociology of translation (Callon, 1986).

3.1 Problematization of black-boxed accounting systems

Drawing principally upon Callon's work (1986), we construed existing cost calculations as black-boxes when they embodied a knowledge claim accepted as unproblematic and uncontested. This black-boxing is the result of a translation process during which a supportive network is developed and stabilized, aligning different actors' interests, meanings, and values. Black-boxing is therefore the process whereby an "*assembly of disorderly and unreliable allies is slowly turned into something that closely resembles an organized whole. When such a cohesion is obtained we at last have a black-box*" (Callon, 1986). Several studies have considered the black-boxing of accounting (e.g. Briers and Chua, 2001, Chua, 1995, Preston et al., 1992, Quattrone and Hopper, 2005, Robson, 1992) whereby accounting facts are accepted as "*truth*". Nevertheless, black boxes may always be re-opened, as networks are always provisional and demand continual maintenance. Thus, when a crisis occurs, previously accepted representations are *problematized* and related black-boxes become more transparent and open to scrutiny (Callon, 1986).

In this paper, we particularly examine the process of re-opening a black box using this problematization and the related concept of trials of strength. According to Callon's approach, problematization refers to the process through which an actor (i.e., the spokesperson) frames a problem or an opportunity and attempts to persuade other actors within the network that the problem/opportunity is worth dedicating resources to its solution. Problematization can take place after a crisis. The spokesperson takes advantage of the crisis to present her knowledge claims to targeted audiences in trying to establish a network of support of people and resources around it. She defines needs by referring to problems with which audiences are allegedly confronted. She also describes her proposition as the solution to these problems (Callon, 1986). It is crucial that the generated solution is of common interest to participating actors despite their diverse interests. Problematization therefore also refers to an actor's efforts to convince others to subscribe to his or her own views by showing that he or she offers the correct solutions. Once initial problematization is complete, the scene is set for trials of strength, whereby spokespersons and audiences argue for and against the knowledge claim, thereby determining the solidity of initial problematization (Callon, 1986).

3.2 Trials of strength

The concept of trials of strength has different meanings (e.g., Akrich et al., 2002, Callon, 1986, Hughes, 1987, Latour, 1987, Law, 1987). Here, we specifically use Callon's (1986) definition of a trial of strength as a contest between two competing calculations options supported by conflicting networks. A trial will consist of counter-actors questioning the black box, and to be victorious, system builders must defend their positions and defeat the competing view. Indeed, during the trial, the spokesperson actively strive to enrol audiences so that they develop an interest in her knowledge claims and subsequently participate in rendering them credible and indisputable (Callon, 1986). Enrolment involves the creation of a *network of allies,* to build an agreement among different actors concerning their interests and to align their interests with those of the spokesperson. To be successful, the trial of strength requires the creation of a strong network of support of the *anti-programs.*

Within the accounting literature, some scholars have mobilized the concept of trials of strength to study moments involving the direct confrontation of claims, i.e., struggles between opposing forces (Bourguignon and Chiapello, 2005, Briers and Chua, 2001, Gendron and Barrett, 2004, Revellino and Mouritsen, 2009, Tremblay and Gendron, 2011). In this paper, we examine an incompatibility trial, which refers to "*a change involving incompatible options where only one option will prevail*" (Christensen et al., In press). Christensen et al. (In press) provide an illustrative example of that, in their analysis of the proponents of outsourcing vs. those for the internal optimization of catering facilities of Danish military facilities. In the present paper, we examine a trial between two incompatible options of calculating profit. More specifically, we are guided in our empirical inquiry by the following research question: *How is profitability generated at the profit centre level, how are these calculations challenged, and what is the role of accountants therein*?

4 Methods

As noted above, the social housing setting is particularly suited to our research question. Many Western countries have implemented or accelerated reforms to social-housing activities (Collier, 2005, Collier, 2008). Accounting plays a key role in NPM and in related managerialisation (Chua, 1995, Hoque et al., 2004, Lowe, 1997). These reforms often rely on the introduction of private-sector methods and accounting is key tools for initiating such changes in organizational structures and systems (Broadbent and Guthrie, 2008, Parker, 2011).

Therefore, this paper focuses on a social-housing organization that has experienced NPM reforms and that has adopted profit-oriented accounting tools and standards. It examines, through trials of strength, how organizational sub-units' profitability contributions are problematized. To do so, this research applies a qualitative longitudinal field study (Ahrens and Chapman, 2006, Silvermann, 1993) of a French public-sector housing organization. The field study was carried out from March 2008 to May 2011 at OMEGA [1], to which the field researcher had extensive access. The material presented in this paper, forms part of a larger research project and is subject to a confidentiality agreement with the examined organization.

Three data collection methods were used: observations of meetings: the review of archival documents; and interviews held with organizational members [2]. These multiple sources improve the credibility of our data by providing cross- and complementary perspectives of emerging elements. Data collection was carried out during frequent and intensive field visits on an average of two days a week during the observation period (from August 2008 to June 2009). Direct observations were also made; including observations of more than 100 formal meetings (see Appendix 1). The field researcher attended various informal meetings and took extensive notes on employee comments and dialogue. Furthermore, the field researcher's regular presence within the organization allowed for access to informal situations. As conversations are the primary medium for social interaction, naturally occurring conversation serves as directly relevant evidence for understanding the role of accounting in the field (Jönsson and Lukka, 2007). Archival data were available, including meeting minutes, documents used or produced during these meetings, minutes of unattended meetings, other confidential documents related to accounting system architectures and procedures, public policies, successive reforms, and external auditor reports. To complement these sources of evidence, 24 interviews were conducted with financial and accounting staff, management accountants, the CFO, the management accounting director, and other management and operational staff (see Appendix 1). All employees were ensured confidentially prior to the interviews. Interviews (lasting 85 minutes on average) were recorded and transcribed; when this was not possible, notes were taken during and after the interviews.

Data analysis proceeded over three steps (Silvermann, 1993). Data were organized chronologically and then based on issues emerging regarding organizational sub-units' profitability contributions. Finally, temporal stages related to the trial of strength emerged in terms of profitability and cost calculations. Given the richness of the data generated through the study, we carried out an iterative analysis. The findings, therefore, are the result of an iterative process designed to draw productive links between the field data, a theoretical perspective, and an accounting issue of interest (Ahrens and Chapman, 2006). In March 2012, the field researcher submitted a written report to key informants from the organization asking them to highlight any problems or potential points of misunderstanding. No concerns were raised and their feedback provided opportunities to gather further data to clarify and elaborate on the issues raised.

5 The case: Contested calculations of profit and costs for a public social housing organization

In this section, we provide further information about the organization's structure and main business practices. We first detail how profitability calculations went under scrutiny within the social housing sector, leading to the reassessment of black-boxed cost calculations. We then illustrate how the trial of strength between two opposing forces emerged, how each force ended up proposing its respective incompatible calculations, and how this issue was eventually addressed.

5.1 NPM and OMEGA's profit and cost calculation

OMEGA is a public social housing organization. OMEGA's main business focuses include site planning, construction (dwellings or commercial buildings), renting, selling new and old dwellings, the design and management of outdoor spaces, buildings' maintenance and renovation, dedicated renting (e.g., traveller sites), and co-trustee management. Its key activity is to build and rent social dwellings to tenants. To build, OMEGA needs to buy land, which is prepared for construction. This preparation (i.e., site planning) is either done internally by the site planning profit centre, or the purchased site has already been prepared. In addition, the site planning profit centre can prepare sites for external customers (i.e., private construction companies, local authorities, and private and public social housing companies). Once a site prepared (whether internally or externally), the building process can start, with building programs including mainly dwellings as well as commercial premises. Once buildings are completed, the program is rented. In 2008, the organization was managing more than 15,000 dwellings and had generated total revenues of over €100 million, a profit of over €4 million, and a cash flow of over €15 million, and over €100 million in equity. In the same year, the organization employed roughly 300 employees and managed seven main units (see the organization chart given in Figure 1).

INSERT FIGURE 1 AROUND HERE

Until 1990, OMEGA, like any French public social housing organization, was mainly managed by key performance indictors (KPIs) relating to the number of constructed dwellings. The sector was dominated for almost a century by construction activities with the most powerful positions held by real-estate directors. Until 1994, OMEGA was a local public organization employing civil servants and a simple accounting system complying with public sector bookkeeping principles. In the 1990s, along with NPM reforms, OMEGA was required to improve its economic performance and self-funding schemes. Two main changes followed in 1994 (Table 1). First, OMEGA adopted private accounting principles and was no longer bound to comply with public accounting standards (cash-based accounting until the 1990s). With its change in status, OMEGA could hire private employees. Second, OMEGA extended its activities to cover site planning. This was intended to improve internal organization by providing internally planned sites at a lower price (until then, site planning had exclusively been realized by external private organizations) and to backward-control construction processes by allowing for the selection of construction site locations. Site planning activity was also considered a source of diversification and revenue. Surprisingly, many OMEGA staff were proud of site planning activities, which were perceived as much more 'professional' and market-related than other social housing-related activities at OMEGA.

INSERT TABLE 1 AROUND HERE

OMEGA's current cost calculations were initially developed in 1997. Facing increasing pressures from local authorities and the Ministry of Housing regarding the organization's economic and financial performance, the CEO decided to decentralize different sub-units structured as profit centres. Cost calculations were then developed to provide more information on how each profit centre performed notably by determine the contributions of each profit centre to the cash flow (CCF). The cash flow was defined as a central indicator of interactions between the Ministry and local authorities and of broader political communication. Second, cost calculations were also developed by the CEO to create incentives for each profit centre manager, to enhance their levels of motivation and to improve their local performance. The then CEO had previous experience with a private social housing company and aimed at implementing the same managerial techniques to improve OMEGA's performance. Cost calculations, including a transfer price scheme, contributed to the cash flows of 8 main areas of business: site planning, construction, renting, the sale of new and old dwellings, the design and management of outdoor spaces, building maintenance and renovation, dedicated renting (e.g., traveller sites), and co-trustee management. Over more than 20 years, local authorities and the ministry considered OMEGA as a good example of managerialisation and performance. As an illustration of this, an analysis of OMEGA financial statements showed that from 1993 to 2008, OMEGA's profits increased over 70-fold, equity levels increased threefold, and cash flows increased from –€2.7 million to €4 million [3]. In 2007, an external auditors' report outlined OMEGA's good financial performance for the 2001–2006 period. OMEGA employees also regarded cost calculations as a source of pride as illustrated by an operations manager: "we are the only public social housing organization with such advanced cost calculations". The development and use of cost calculations was controlled by the same management accounting manager for more than 20 years. In 2007, cost calculations could be characterized as a black box, as they were taken for granted by most employees; while its functioning was opaque (no written or formal procedures had been developed), it was not questioned or even mentioned in meetings. However, information provided by cost calculations were largely used internally, and many key indicators such as contributions made to cash flows at the profit centre level were communicated to all managers on a monthly basis.

5.2 Public social housing sector crisis

While OMEGA was perceived to be performing well economically and financially over the decades, an important political event provoked a crisis within the broader public sector and in OMEGA. We describe here an initial crisis "*dodus dormant*" (i.e. sleeping fatos) that would subsequently impact OMEGA, in particular leading to the CFO's problematization of previously accepted facts, i.e., costing calculations, and how this placed black-boxed cost calculations at the centre of managerial attention and as a subject to scrutiny (Callon, 1986).

Over the last decades, the French social housing sector had been marked by repeated scandals related to mismanagement, a lack of maintenance (e.g., lethal elevator accidents), large amounts of funds being left unspent, and opacity in how privileged people had been allocated dwellings. Even proponents of a more liberal housing policy [4] pointed a deviation from the initial social mission. The "dodus dormant" [5] crisis broke out under this context. In 2008, the Minister of Housing publicly announced that she wanted to reform what she called these "dodus dormant". She was referring to organizations that were both rich and not very active in terms of construction and estimated to account for approximately 10% of the sector's organizations, with 40% not involved in any construction activity at all (Chevallereau and Rey-Lefebvre, 2008). The Minister considered these organizations to be more concerned with generating profits and with increasing their equity rather than with creating and managing social housing dwellings, which had been their initial mission (Chevallereau and Rey-Lefebvre, 2008). Ironically, these public social housing organizations were maintaining high earnings to ensure a high level of cash, thus complying with high cash flow requirements set by the Ministry during the NPM reforms.

This "dodus dormant" crisis was widely covered in the newspapers and created a landslide effect in the public social housing sector. The Minister's objective was to find out whether the organizations' profitability had been the result of actual building and renting activities or the result of savings and a lack of investment. The profitability of the social housing sector was put into question. As a result, in the same year, the ministerial audit body (SHIIM [6]) and statutory auditors started to inspect public social housing organizations to examine how these organizations were achieving their financial performance, i.e., whether cash flows had been obtained at the expense of their core mission to provide public social housing. At this time, the SHIIM and the external auditors underlined the very good financial performance of OMEGA. Therefore, the organization was subject to particular attention. At the start of 2009, the SHIIM carried out an external on-site audit to assess how profitability (i.e., cash flow) was generated. The audit period ran from 2004 to 2008. The SHIIM report pointed to a lack of clear written procedures and to a lack of transparency concerning OMEGA's management accounting process or to systems providing information on how profitability was generated. Furthermore, the report highlighted the complexity of calculations formulas used and particularly those concerning the profitability-contribution scheme (the specific calculation of profit centres' contributions to cash flows). Moreover, the report clearly highlighted the MAS's lack of transparency. The regulatory body alongside statutory external auditors required that OMEGA provide an answer, implying the creation of clear and trustworthy procedures.

5.3 Problematization of labour costs led by the CFO

To respond to the auditors' requests, the CEO and CFO decided to create an internal taskforce to clarify and document the MAS and contributions made to the cash flow scheme. The taskforce included 2 management accountants, the CFO, 10 accountants, the treasurer, and the manager of unpaid rents and exploitation costs. The taskforce's mission to clarify and document the MAS implied an examination of the MAS and the documentation of its architecture and allocation schemes. The first report detailed that the MAS covered cost calculations and the budget system and was organized following the ABC method, i.e., activities had been identified and cost pools and cost drivers had been created (the basic architecture is illustrated in Table 2). Nine main profit centres were contributing to the cash flow: the sale of new houses, site planning, travellers' sites, renting, co-trustee management, construction, the construction of specific dwellings, urban regeneration and the sale of old dwellings. The overall objective of these units was to enhance their contributions to the cash flow as the key indicator cited in internal meetings and external communications. Among them, travellers' sites, the construction of specific dwellings, the sale of old dwellings and site planning were negatively contributing to the cash flow (see the CCF as a percentage in Table 3). While the negative conditions of the three former focuses was not surprising given that they were all required by local authorities and mainly for social reasons (for travellers' sites, the construction of specific dwellings and the sale of old dwellings), the site planning figure was at the centre of internal and external attention. Indeed, in many meetings with local authorities, questions concerning the maintenance of this activity internally were raised. The real estate director mentioned several times that while this activity was not yet profitable, it would be soon.

INSERT TABLE 2 AROUND HERE

The cash flow contribution relied on detailed cost calculations. To allocate overhead costs, management accountants had created activity cost pools with corresponding cost drivers. A detailed table describing the cost allocation mechanism shows 48 drivers defined with acronyms without any clear definitions or calculation methods. The CFO considered this table “not very clear”.

INSERT TABLE 3 AROUND HERE

During these meetings, the CFO raised issues concerning a specific element of the cost-system architecture: the fact that labour costs (i.e., salaries) given in Table 3 were gathered as structure costs in DHNR and DHRE and thus considered as indirect costs. This seemed puzzling since the costs system was designed around an ABC methodology relying in principle on tracing as many costs as possible at profit centres level. She was particularly sensitive to labour costs, as the external statuary auditor had raised an important point regarding labour costs in a report. The report outlined an increase in labour costs that had led labour costs per dwelling rented to be 25% higher than the sector median. Indeed, labour costs were particularly important for OMEGA, representing more than 40% of the cash flow in 2008 (see Table 4). The CFO argued that staff cost were a serious issue and that a tracing of direct labour costs would make more sense and render managers accountable to their staff.

> “At Domus [i.e., the private competitor where she worked immediately before OMEGA], wages were allocated to each sub-units’ budgets, as is usually done in the private sector ... [Doing this at OMEGA would be] relevant for each sub-unit manager. This would allow them to understand that neither employees nor working

time are free, and this may lead them to stop constantly asking for more staff" (CFO, formal budget meeting).

According to the CFO, directly tracing labour costs for each cost centre would have clear benefits. First, a clear number of employees and staff for each profit centre would be established. This tracing of the utilization of staff would determine corresponding costs for each profit centre as direct costs. Second, allocating labour costs to each profit centre would potentially decrease labour costs (according to the statutory auditors report, OMEGA had experienced a 30% increase in labour costs over four years, largely exceeding the sector's average) by holding sub-unit managers accountable for their staff use. Indeed, her solution of the direct tracing of labour costs to each sub-unit would improve transparency and eventually improve each profit centre's efficiency regarding staff utilization. She also strongly advocated that this approach would remain consistent with ideas of managerialisation and private accounting standards that had motivated the implementation of cost calculations in 1994.

INSERT TABLE 4 AROUND HERE

Subsequently she attempted to find supporters and allies for the network that would oppose the present calculation in terms of indirect labour costs and instead argue in favour of directly tracing labour costs at profit centres level. To find allies for her cause she turned to managers of understaffed profit centres focusing on areas such as renting activities, outdoor spaces, and maintenance. To do so, she emphasized that directly tracing labour costs would affect the calculation of cash flows of each profit centre and hence their contributions to overall cash flows. In a formal meeting with rental managers, she stressed the unfairness of such a system that disadvantages sub-units that do not account for a large number of staff hours. The rental profit centre was among these units. The rental profit centre focused on the renting management of dwellings for tenants. This unit was not regarded well internally, as it was considered to focus on unprofitable social work (tenants were often described as "uneducated persons", "poor families", "tenants who willingly deteriorate the dwellings", and "an ungrateful bunch of unsociable people" sometimes even by the rental staff). According to the rental director and rental managers, this sub-unit was seriously under-staffed and was unfairly not considered as central in OMEGA. The managers of the rental unit and the manager of the co-ownership delegate were particularly attentive to her arguments. For them, this constituted a real opportunity to rebalance the historical hegemony of what constituted the real estate units (i.e., construction and site planning, which were the responsibility of the same director).

Surprisingly, she also tried to convince another potential supporter, i.e., the construction manager, who was far from unstaffed. The construction manager was involved in a long lasting battle with the site-planning department, and the CFO took this opportunity to support her claims with him. Tensions between the site-planning manager and construction manager were due to quality problems of internal delivery. This was regularly mentioned in meetings and around the coffee machine:

> "Ok, they make money, but look at them. They pretend to be more professional than us, but their work is crappy. They pay more attention to external clients than to internal projects". (Operational employee from the construction sub-unit)

Employees often discussed episodes where the construction sub-unit needed to redo the preparation of the land itself due to poorly performed site-planning activities. The site-planning manager seemed to be aware of this, but she did not seem to care. Instead, her primary concern appeared to lie in enhancing site-planning contributions to the cash flow:

> "The externally sold sites are more profitable than those designated for internal construction ... the lack of staff in my sub-unit accentuates this phenomenon ... The staff I have does not allow the planning of all sites in a satisfactory manner. This is why I ask my site managers to focus on externally sold sites." (Site-planning manager)

The site-planning manager as well as many other employees assigned great importance to the quality of externally sold sites, neglecting internally delivered sites. The site-planning manager claimed that externally sold sites were more profitable than internally transferred sites. She was clearly concerned with making stronger contributions to the cash flow of her sub-unit, and in her view, externally prepared sites were allowing her to do that. During a meeting, the CFO tried to convince the construction manager to support her, as she argued that his situation could be resolved with her direct tracing solution. She explained to him that the cost calculation was currently overestimating externally sold sites.

According to her, the cost calculation set the selling price of activities for external clients at the market price, whereas the price for internally focused sites was set through full costing while excluding certain overheads and notably including labour costs, leading to an enormous price difference between internal transfers and external sales. She pleaded in favour of the direct tracing of staff costs based on the argument that this would have a strong impact on the site planning and construction departments' contributions to cash flows. Rendering labour costs direct would increase the transfer price, rendering internally focused sites more profitable in the system and rendering the rework cost visible.

Further, in an attempt to sway the CEO, she explained that this conflict around the two sub-units had contributed to the deterioration of OMEGA's results in the same period. The CFO argued that salary costs had increased because managers were not held accountable for them. Further, additional construction costs designed to correctly prepare internally delivered sites had led to a decline in performance, which she proved with the statuary auditor's report. She highlighted the decline of profits of over 50% (before taxes and extraordinary items) from €4 million in 2007 to €2 million in 2009. She also outlined that increased labour costs, as salary costs per dwelling rented, were 25% higher than the sector median. Upon being challenged on this by the real-estate director, citing its good financial performance, the CFO argued that OMEGA had been able to maintain positive results overall only due to exceptional items. She explained that compensatory cuts in other areas had been made, for example, on the maintenance of existing dwellings. Between 1993 and 2008, dwelling maintenance costs had decreased significantly, whereas they should have increased given the increasing number of dwellings and because dwellings were, on average, 30 years old in 2008.

This section has illustrated how a crisis provoked by the Ministry regarding public social housing organization profitability led to an internal problematization of costing calculations influencing the CCF of each unit (i.e., labour costs) led by the CFO. The CFO acted as a spokesperson, and presented and defended her claims to potential allies to establish a network of support, notably among rental activities and other managers that were considering being disadvantaged by the contribution calculations. Her claim was that rental, construction, and understaffed activities were confronted with staff-cost treatment problems. She promoted her solution to trace directly labour costs at each sub-unit level as the solution to their problems. She also promoted consistency in the accounting system to management accountants, accountants and the CEO. She also had to face program defenders, as discussed in the next section.

5.4 Resistance from the labour cost centralization network

We detail here how the calculation method was supported by a network, defended by the two management accountants and by other actors (site planning, outdoor spaces, etc.) galvanized around the real-estate director.

The two management accountants acted as spokespersons in support of the centralization of labour costs based on several arguments. The first argument made pertained to OMEGA's history as a public sector social housing organization:

> "Labour costs had been centralized here long before we joined OMEGA. This is common, as in any public sector social housing organization complying with private sector accounting standards". (Management accountant 1)

Other public social housing organizations [8] had adopted the same practice of centralizing labour costs into a single account. This legacy had originated from a period of public sector accounting standard compliance (until 1994) centralizing to a single budget called the HR budget. During this period, salaries were not considered labour costs, but structure costs, as civil servant salaries were not managed by the organizations but administered by state authorities. Until 2004, OMEGA had exclusively employed civil servants and HR departments managed civil servant status. Another argument contended that changing the treatment of labour costs would have consequences for the whole MAS:

> "When it comes to staff, we are not only talking about the cost supported by sub-units and the impact of that on their performance. We are actually talking about the complete budgeting system and about changing nomenclatures, software parameters, procedures, etc. It is not just a matter of adding or deleting one management accounting line from the system". (Management Accountant 2)

The real estate director also supported the centralization of labour costs. He belonged to a broader network of the local authority, as he was a civil servant of a local authority, in secondment agreement with OMEGA for decades. As such, while he was not technically an employee of OMEGA, he was an important employee of the city. The network that formed around the real estate director included the two management accountants in taskforce meetings. The management accountants argued not only for historical elements but also on the premise that any change would (allegedly) imply a considerable reengineering of systems and related technical challenges. The management accountants had tried years ago to trace (directly allocate) labour costs to each sub-unit. They argued that they, however, had gathered them back because no one had used them. They also noted the lack of reliable information required to do this, as repartitioning had been based on declarations made by each manager. They raised concerns surrounding the reliability of this declaration, as many employees frequently work for more than one team and profit centre.

Spokespersons of the centralization supporters (i.e., the two management accountants) argued that the approach would be possible but time-consuming, useless, and unreliable. During one meeting, the CFO challenged these arguments, suggesting that this information was now useful; management accountant 1 raised another argument in favour of labour cost centralization, as the following conversation illustrates:

- CFO: "Would it be feasible to detail the labour costs per profit centre and sub-unit"?
- Management accountant 1: "I am not against this … but there are clearly some confidentiality issues raised here. Such a breakdown means that each manager will know the salary of his or her colleagues, and this is clearly problematic". (Taskforce meeting)

During this meeting, the opposition between the CFO and two management accountants was clear. To the management accountants, labour costs per sub-unit were not necessary for performance analysis. They considered this issue trivial and of low priority. They also argued that through many informal discussions, it had emerged that many other managers were reluctant to disclose publicly their labour costs and related salaries. The real estate director (in charge of site planning and construction) shared the management accountants' views. The real estate director was a central actor against the allocation of labour costs:

"… I ask myself why there is so much noise on this [centralization of labour costs]. There are more important things than knowing exactly who has worked for whom up to the last dime … in my teams we seriously lack operation managers and I do not need to carry out a calculation to tell you that we do not have enough staff". (Real estate manager)

He emphasized the importance of OMEGA's construction mission and the centrality of site-planning activity to this mission. He explained to one executive committee:

"If we cannot perform site-planning anymore, it will be very difficult to find proper sites and at a low price. We would be at the mercy of the other site planners, and they would not do us any favours. We must do all we can to keep the site-planning activity amongst our services. It is a state of war." (Real-estate director)

This quote underscores a perception of site planning as a crucial and strategic activity that is valuable despite its lack of profitability. The site manager also supported the management accountants' position, arguing on the premise of the complexity of detailed staff attribution and thereby based on the irrelevance of staff allocation. In the same meeting, the CFO mentioned once again the sub-unit managers' lack of transparency on their labour costs and related financial drifts. She illustrated this by citing issues regarding the preparation of internal sites, pointing to rising costs for construction for the required double preparation. The real estate director countered this argument by stating that construction performance was not at stake:

"Construction does not have to be profitable; it is charity business. We build because we are required to build social housing that we subsequently rent. This is not business; this is politics. Site planning is a real business. We have to make sure that this activity remains within our jurisdiction; otherwise, we would not be taken seriously anymore". (Real estate director)

His claim, shared by many employees, was that OMEGA was building for political reasons while site planning was a real business, which would be profitable if it only rendered services to external customers.

5.5 Epilogue: results of the trial of strength

By examining competing views emerging during the trial undertaken by the CFO, we identified two competing views regarding staff cost treatment. One network, including the CFO and rental manager, supported tracing direct labour costs at the sub-unit level, which would then favour the profitability of the rental service, as it was not very staff intensive. The second network notably involved management accountants, the site-planning manager, and the real-estate manager, who argued to maintain the centralization of labour costs. Nonetheless, while the construction manager had initially supported claims made by the CFO, he later backed the network of support of the *program* (i.e. the centralization of labour costs).

At the end of the period designated for the taskforce, a report was provided to the CEO. Recommendations made regarding the lack of visibility were consistent with the minutes of the taskforce meeting:

> "Currently, in budgetary terms, wages are centralized and assigned to the human resource unit. For the sake of confidentiality, it seems difficult to break down the wage costs by sub-unit within the budget accounts. However, it is possible to indicate to each responsible the global payroll of the sub-unit managed, highlighting the labour costs. This provides another indicator allowing these costs to be controlled over several years." (Minutes from a taskforce meeting)

The CFO strongly advocated for the direct tracing option in cost calculations, even if it remained unchanged in the budget. Interestingly, the CEO was not against this and requested a feasibility analysis. However, by the end of the study (2011) [9], no such tracing of labour costs had been undertaken. Some minor changes suggested by the taskforce had been made (see Table 5). For example, the period of building amortization had been lengthened from 45 to 50 years. This relates to the funding and debt period for buildings. The central state increased the period to 50 years at the beginning of the study, which favoured the construction profit centre, as a building program financial balance would be reached after 50 years rather than 45, easing conditions for program managers. As another example, cost calculations for outdoor spaces were now clearly identified. Before, outdoor spaces constituted part of the total building costs without being identified separately. Local authorities complained about the poor design and lack of elaboration of these spaces, thereby calling for further accountability regarding the costs spent. The related changes were made without any major resistance from construction departments, which saw their area of responsibility eroded in favour of sub-units of outdoor space maintenance, which were now also responsible of their design but that perceived a means to decrease the total cost of building programs.

INSERT TABLE 5 AROUND HERE

During the trial, the CFO actively strived to enrol allies, but she did not manage to build a stable powerful network, thereby failing to overturn the established profitability-and-cost calculations. It seems that the two networks had different perspectives on the organizational mission (civil servant vs. private sector perspectives). The pro-centralizing network argued for treating labour costs as a central overhead, not accounting for them directly at the profit-centre level, and hence delegating responsibility for these costs. Their claim, as reflected in cost calculations, was that staff were not a relevant item when evaluating profit centres' performance. Indeed, staff had long been considered as taken care of by the state and then by the CEO of the organization. Interestingly, this public network was more concerned with local contributions to the cash flows of so-called professional activities than with OMEGA's overall social mission. The real estate director was one of the system's defenders, clearly fighting against the CFO's claims, whom he considered an "opponent". He occasionally referred to her as an outsider or newcomer. He managed to defeat her, garnering the site-planning manager, management accountants, and, eventually, the construction manager.

While supported by the CEO and by several managers and directors, the CFO failed to build a stable network and a staff-cost-treatment element of the black box remained unchanged. Here, the real estate director was relying on many allies, including management accountants and middle managers. Nevertheless, these individual elements formed a strong network of actors that appeared here to include current or former civil servants. Several motivations for defending the existing calculation of contributions to cash flows were proposed. Among them, the CFO's perspective was cultural:

> "... It is cultural; they [the two management accountants] were reluctant to change because they are used to doing this in a certain way linked to a strong internal culture. I believe that they don't really understand the ins and outs of such change. Besides, it [maintaining existing practices] suits many people, particularly the

executive committee [composed of heads of units]. I think that most of them are not very happy with such a breakdown and with the related transparency of labour costs". (CFO)

Nonetheless, other elements could explain the solidity of the network such as software dedicated to the sector that proved central to the discussion, a budget that was still complying with public sector standards, the structuring of responsibilities centres, and unionists with public sector status and background. Among these elements, the specific status of members of this network was of paramount importance. Current and former civil servants enjoy advantages that private employees do not. Keeping labour costs and related information undisclosed could prevent any homogenization and reduction of such advantages among employees. One civil servant unionist highlighted this point in reference to the "terrible mess", both social and legal, that such a disclosure (of several privileges) would imply. Another element could relate to the fact that the real estate director, who opposed direct tracing, belonged to a broader network of the local authority. As he regularly mentioned, his network extended to politicians and decision-makers regarding OMEGA funding and land access. Access to the land in terms of area, pricing, and priority of choice was of paramount importance for OMEGA, as it is for any social housing organization, be it public or private. Therefore, his proximity with local authorities was crucial for the CEO. Finally, site planning also constituted a key element of privileged access to the land, as the site planner was in fact a key decision maker in the allocation of land. Criticisms made of the social-housing sector were aimed at those organizations that did not engage in any construction activities but still had high profitability figures. However, OMEGA was not one of the "bad apples". OMEGA's construction activities were quite satisfactory, as targets were being met. Furthermore, site planning was a strategic activity and a crucial requirement of sustained construction activities.

6 Discussion and conclusion

The purpose is this paper is to examine the emergence of a trial of strength on black-boxed cost calculations, and how this trial proceeded and was resolved. We consider here in more detail how our paper contributes to the accounting literature, and we then conclude with some considerations for future research. Our research question asks: *how is profitability generated at the profit centre level, how are these calculations challenged, and what is the role of accountants therein*? To address this, and drawing upon the concept of trials of strength (Callon, 1986), we analysed emerging competing views on costs and profitability calculations. More specifically, we analysed a specific instance involving the direct confrontation of claims between opposing forces regarding labour cost calculations that influences the profitability of centres, i.e. their contributions to the cash flow. In doing so, we contend that our study contributes to the extant research on accounting in several ways.

First, it provides an empirical analysis of intra-organizational profitability (Lukka, 1990), and more specifically, of how cost calculation methods influence cash flow assigned at the profit centre level. We provide empirical details on how the method for treating labour costs (i.e., direct tracing vs. centralization and using indirect costs via drivers) significantly changes the costs attributed to each profit centre and, hence, the units' contributions to the cash flow. Further, as cost calculations inform pricing, the method used to treat costs directly affects the turnover of each profit centre. Initially the purpose of calculating turnover, costs and profits at the profit centres level, was to evaluate the contributions of each centre to overall profitability (measured as their contribution to the cash flow). The ultimate goal was to enhance transparency and overall profitability. In line with that, the CFO considered that treating labour costs as indirect tended to distort profitability, as it was merely counted as a large and undifferentiated cost pool. She wanted to get rid of this dark spot, to enhance accountability with a direct cost tracing approach.

Nonetheless, this calculation at the profit centre level reinforced the interests of certain profit centres by favouring them through relatively lower costs and relatively higher turnover rates and thus by generating higher profits. With the existing options, the real estate unit achieved high profit by being under costed, despite being a labour intensive unit. In contrast, rental units was over costed which impact on its profitability, which was less labour intensive. Furthermore, this cost calculation approach informs the internal transfer price in such a way that the internal price is relatively low for internal services so that external services appear more profitable for the real estate unit. Interestingly, the case shows that the initial crisis over the profitability of public social housing organizations and related questioning of their social mission ended up reinforcing OMEGA's production mission and at the expense of its rental mission.

Incidentally, profitability remained a central element for OMEGA, leaving aside its social mission. This study raises doubts regarding the relevance of profitability (based on cash flows or any other financial indicator) as an indicator of social housing governance. As underscored through this illustrative example, the contributions of responsibility centres to the cash flow proved useless in ensuring economic performance at the profit centre level, and even prevented OMEGA from carrying out its social mission. Furthermore, the findings show how the concept of trial of incompatibility is helpful in showing how the actor-networks within Omega, played out the tension between profit orientation and the social mission of offering affordable dwellings. The debate on the competing views on how to treat labour costs was not only located in accounting calculations and relating to the profitability of centers. Although it took departure in labour treated as indirect costs, it extended well beyond allocation of labour costs to centers. The debate was carried out against a much broader problematization of what constituted the status of OMEGA (private vs public). The debate on labour costs constructed linkages to issues more complex than initially expected by the CFO, and OMEGA's mission was taken on in its entirety. The development of an alliance network of support for the tracing option by the CFO was a process where the original issue — the indirect labour costs —was contextualised and problematized with a view to explain the importance of the labour costs to OMEGA. The labour costs problem was made complex as it was transformed from simple costs to one of complex mission and status of OMEGA. This challenged the organization's ability to integrate a profit orientation with a social mission of providing affordable housing. This involved not merely a description of the mission of OMEGA, but also involved a reconsideration of profitability to fit a preconceived notion of public status of OMEGA. These elements provide further evidence of the complexity of the public social housing sector and of how difficult it is for accounting to represent the different interests of actors of this sector (Collier, 2005, Collier, 2008, Smyth, 2017).

Second, this study contributes to research on competing views of accounting calculations (Kurunmäki, 2004, Ahrens, 1997a, Ahrens, 1997b, Miller and O'Leary, 1993, Mouritsen, 1999, Preston, 1992, Lowe and Koh, 2007). In examining views emerging from the trial undertaken by the CFO, contrasting with these previous studies, we identified two competing views regarding staff-cost treatment not between accountants and other professional but among accountants. Some accountants were supporting the tracing of direct labour costs at the profit centre level, notably the accountants and CFO. However, some accountants also formed part of a network that argued for maintaining the centralization of labour costs, with management accountants acting as *program defenders*. At the heart of these competing views held by accountants are technical differences in ways of addressing labour costs. These different technical views on calculations have their origins in different rationales on the purpose of an organization and its management (Miller and Napier, 1993). The accountants themselves, do not seem to diverge on the influence on the profit contributions of certain profit centres, but rather their motivations lie in a different perspective on the status of the organization (i.e., as a public sector) and their own identity (as public servants). In this perspective, responsibility for salaries is centralized, whereas in a private sector organization, the responsibility for salaries lies at the profit centre level. OMEGA's profit calculation method appears to apply a combination of the two regimes.

The calculation of costs, turnover and profits at the profit centre level was introduced with NPM reforms. However, the centralization of labour costs is a practice of the public sector that is still practiced at OMEGA. Likewise, the two management accountants argue that heads of profit centres must not be responsible for salaries, and that it would not make sense to trace them and treat them as direct costs for each centre. From their perspective, this would in fact not constitute useful information and would not be consistent with the principle of responsible accounting. In this respect, the two management also point to confidentiality issues, as it is easier to maintain confidentiality when all labour costs are centralized. In contrast, the CFO wishes to push the NPM reforms further by tracing labour costs at the profit centre level and by accordingly delegating responsibility for salaries to the profit centres. Hence, to her, the transparency of labour costs takes precedence over confidentiality issues. These findings clearly point to competing views among accounting professionals, not only on the calculations but also on their perception of OMEGA and the principles of responsibility accounting.

Third, this study contributes to the ANT accounting literature by examining the trials of strength of a long-existing profitability calculation. It contributes to accounting research on trials of strength (Bourguignon and Chiapello, 2005, Briers and Chua, 2001, Gendron and Barrett, 2004, Tremblay and Gendron, 2011) and to fabrication studies (Andon et al., 2007, Briers and Chua, 2001, Preston et al., 1992) by showing how different long-established black-boxed calculations emerge and compete. Our findings serve as a processual account of how an initial crisis (i.e., questioning from the Ministry on public social housing profitability) can initiate internal problematization. The findings also offer valuable insights on how black-boxed profitability calculations can be the result of multiple influences over time. We also add to the accounting research on trials of strength (Bourguignon and Chiapello, 2005, Briers and Chua, 2001, Gendron and Barrett, 2004, Tremblay and Gendron, 2011) by showing how black-boxed profitability calculations resist the trial of incompatibility. We complement Christensen et al (2019) who described in their study a trial of strength around two organizational options, i.e. internal deliver or outsourcing, by documenting a trial concerning two calculative options of profitability (on how to calculate profit or more specifically on how to treat indirect labour costs) that relate to the organization mission and identity.

During the studied trial, a competitive view emerged against the existing option of centralizing labour costs defended by the two management accountants. This competing option led by the CFO, consisted in favour of tracing direct labour costs at profit centres level.-With competing views taking place among the accountants, we show that far from settled and clear cut, the way how to carry out an cost calculation is, actually contested by accountants themselves. The results contrast with most previous fabrication studies of accounting that have underscored the fragility and changing nature of accounting systems (Andon et al., 2007, Preston et al., 1992), as our study provides evidence of the stable nature of an established system and of its capacity to resist the claims of an adversary spokesperson through trials of strength. In line with Lowe (2000), this paper shows that the strength of an established network relies on the strength of links between different elements than constitute calculations. The different elements of calculations (cash flows and costs) are interlinked and depend on the definition of cost centres, the cost drivers, and the status and mission of OMEGA. This also relates to transfer prices and the budget, which is still regulated by a public sector regime of centralized labour costs. The links are built around mathematical, technical accounting and IT linkages also involving the long-established public-sector regime, its norms, and regulations, reaching across time and space and rendering the network strong and resistant to attacks from *anti-programs*. On the other hand, the CFO, who acted as the spokesperson of the *anti-program* (in favour of tracing staff costs at profit centres level), did not succeed to build a sufficiently strong network to change the cost and thereby profit calculation. As suggested by Briers and Chua (2001), a reason may lie in the CFO not linking up with "cosmopolitan" allies (i.e. external actors, such as the central government and the local authority, which were the main funders and the supervisory authorities of Omega), such as the Estate manager did.

This research has various implications. First, there are implications for the public social housing sector and namely for the role profitability-and-cost calculations play in the reforms this sector is experiencing worldwide. Profitability in this sector is continuously under scrutiny and the object of reform. Recently, French President Emmanuel Macron raised concerns about the high profits generated by the public social housing sector (€21.4 billion in turnover and €3.3 billion in profits in 2014) and initiated reforms. Our findings can add insight into these reform initiatives, as they suggest that successive NPM reforms have reinforced public social housing organizations' profit orientation without holding them accountable to their social mission of offering affordable dwellings to socially and economically vulnerable tenants. This led them to disregard their social mission to improve their performance as measured by the Ministry, i.e., their cash flow. In our study, the concept of trial of incompatibility proved helpful in showing how the actor-networks within Omega, played out the tension between profit orientation and the social mission of offering affordable dwellings. This research points to a departure from the mission of public social housing in the face of NPM reforms and suggests somehow the compatibility of a profit orientation with provision of affordable dwellings. We therefore call for further research to address this institutional complexity at the intra-organizational level, i.e., how it is perceived by actors an enacted in everyday practices.

Regarding accounting implications, the findings show that profitability calculations are not only influenced by the economic context (Humphrey and Miller, 2012; Leeuw, 1996; Agyemang, 2009) but also by the interests of organizational actors. The empirical setting and NPM context provide a valuable setting for studying such effects. Our analysis suggests that calculations regarding profitability and cost calculations would benefit from a more detailed, wide ranging and explicit documentation of forms and intentions. Adopting such an approach would allow for a debate of the underlying motivations that drive calculations and how they influence profitability and costs. Limiting the debate to supposedly technical costing jurisdictions unhelpfully conceals the fact that there are always choices to be made and different objectives to privilege even in the pursuit of apparently unitary concepts such as economic performance.

Appendix 1. Fieldwork information (2008 to 2011)

Data types	Quantity
Interviews	24
Total number of formal meetings attended	106

Interviews	Date	Person interviewed	Time
Recorded	25/08/2008	Director of the specific dwelling	2 h
Recorded	25/08/2008	Collaborator of the specific dwelling	1 h35
Recorded	25/08/2008	HRM manager	1 h55
Recorded	27/08/2008	Real estate director	1 h30
Recorded	27/08/2008	Litigation and management manager	45 min
Recorded	27/08/2008	Bookkeeping and accounting manager	50 min
Recorded	27/08/2008	Housing director	1 h10
Recorded	27/08/2008	Agency manager	45 min
Recorded	27/08/2008	Commercial manager	45 min
Recorded	27/08/2008	Agency manager	45 min
Recorded	27/08/2008	CFO	1 h20
Not Recorded	28/08/2008	Management accounting director	2 h
Recorded	28/08/2008	Real estate secretary	60 min
Recorded	28/08/2008	Sales manager	1 h20
Recorded	28/08/2008	Manager of outdoor and green spaces	1 h05
Recorded	29/08/2008	CEO	1 h50
Recorded	04/09/2008	Technical sub-unit manager	1 h15
Recorded	04/09/2008	Construction	1 h30
Recorded	04/09/2008	Management accountant	1 h35
Recorded	04/09/2008	Management accountant	1 h30
Recorded	09/09/2008	Site planning and groundwork manager	2 h00
Recorded	25/11/2010	Internal project manager	2 h00
Recorded	30/11/2010	External project manager	2 h05
Not Recorded	22/12/2011	CFO	2 h15

Endnotes

[1] We changed the names and identities of the individuals and firms referenced to preserve their anonymity.

[2] We translated all documents, interviews, and notes from French.

[3] To maintain the organization's confidentiality, a range of figures rather than the actual figures are presented.

[4] See January of the same year: the Attali report on the liberation of growth advocated for competition with the private sector and expressed reservations regarding its social mission.

[5] "*Dodus dormants*" could be translated to "sleeping fatos".

[6] The Social Housing Inter-Ministerial Inspection Mission (SHIM): a regulatory body under the joint authority of the Minister for Housing and the Minister for Economy. Its activities involve auditing public social housing organizations on their compliance with laws and regulations of the Code of Construction and Housing produced by the Ministry of Social Housing.

[7] The "*Loi de Sécurisation Financière*" is the French adaptation of the SOX Act.

[8] The field researcher conducted additional interviews with the CFOs of two other social housing companies.

[9] In 2017, the field researcher again checked that this was still the case.

References

AHRENS, T. 1997a. Strategic interventions of management accountants: everyday practice of British and German Brewers. *European Accounting Review,* 6**,** 557-588.

AHRENS, T. 1997b. Talking accounting: an ethnography of management knowledge in British and German Brewers. *Accounting, Organizations and Society,* 22**,** 617-637.

AHRENS, T. & CHAPMAN, C. S. 2006. Doing Qualitative Field Research in Management Accounting: Positioning Data to Contribute to Theory. *Accounting, Organizations and Society,* 31**,** 819-841.

AKRICH, M., CALLON, M., LATOUR, B. & MONAGHAN, A. 2002. The key to success in innovation part ii: the art of choosing good spokespersons. *International Journal of Innovation Management,* 06**,** 207-225.

ALCOUFFE, S., BERLAND, N. & LEVANT, Y. 2008. Actor-networks and the diffusion of management accounting innovations: a comparative study. *Management Accounting Research,* 19**,** 1-17.

ANDON, P., BAXTER, J. & CHUA, W. F. 2007. Accounting change as relational drifting: a field study of experiments with performance measurement. *Management Accounting Research,* 18**,** 273-308.

BAXTER, J., CARLSSON-WALL, M., CHUA, W. F. & KRAUS, K. 2018. Accounting and passionate interests: the case of a Swedish football club. *Accounting, Organizations and Society,* 74**,** 21-40.

BLOOMFIELD, B. P. & VURDUBAKIS, T. 1997. Visions of organization and organizations of vision: the representational practices of information systems development. *Accounting, Organizations and Society,* 22**,** 639-668.

BOURGUIGNON, A. & CHIAPELLO, E. 2005. The role of criticism in the dynamics of performance evaluation systems. *Critical Perspectives on Accounting,* 16**,** 665-700.

BRIERS, M. & CHUA, W. F. 2001. The role of actor-networks and boundary objects in management accounting change: a field study of an implementation of activity-based costing. *Accounting, Organizations and Society,* 26**,** 237-269.

BROADBENT, J. & GUTHRIE, J. 2008. Public sector to public services: 20 years of "contextual" accounting research. *Accounting, Auditing & Accountability Journal,* 21**,** 129-169.

BRYER, R. A. 2000. The history of accounting and the transition to capitalism in England. Part one: theory. *Accounting, Organizations and Society*, 25**,** 131-162.

BRYER, R. A. 2006. Capitalist accountability and the British Industrial Revolution: The Carron Company, 1759–circa. 1850. *Accounting, Organizations and Society,* 31**,** 687-734.

BUSCO, C. & QUATTRONE, P. 2018. Performing business and social innovation through accounting inscriptions: an introduction. *Accounting, Organizations and Society,* 67**,** 15-19.

CALLON, M. 1986. Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay. *In:* LAW, J. (ed.) *Power, Action and Belief: A New Sociology of Knowledge?* London (United Kingdom): Routledge.

CHEVALLEREAU & REY-LEFEBVRE 2008.

CHRISTENSEN, M., SKÆRBÆK, P. & TRYGGESTAD, K. In press. Contested organizational change and accounting in trials of incompatibility. *Management Accounting Research*.

CHUA, W. F. 1995. Experts, networks and inscriptions in the fabrication of accounting images: a story of the representation of three public hospitals. *Accounting, Organizations and Society,* 20**,** 34.
COLLIER, P. M. 2005. Governance and the quasi-public organization: a case study of social housing. *Critical Perspectives on Accounting,* 16**,** 929-949.
COLLIER, P. M. 2008. Stakeholder accountability: A field study of the implementation of a governance improvement plan. *Accounting, Auditing & Accountability Journal,* 21**,** 933-954.
CORVELLEC, H., EK, R., ZAPATA, P. & CAMPOS, M. J. Z. 2018. Acting on distances: a topology of accounting inscriptions. *Accounting, Organizations and Society,* 67**,** 56-65.
GENDRON, Y. & BARRETT, M. 2004. Professionalization in action: accountants' attempt at building a network of support for the webtrust seal of assurance. *Contemporary Accounting Research,* 21**,** 563-602.
GRIFFITHS, I. 1992. *Creative Accounting: How to Make your Profits what you Want them to be,* London, Routledge.
GUTHRIE, J. E. & PARKER, L. D. 1999. A Quarter of a Century of Performance Auditing in the Australian Federal Public Sector: A Malleable Masque. *Abacus,* 35**,** 302-332.
HINES, R. D. 1988. Financial accounting: in communicating reality, we construct reality. *Accounting, Organizations and Society,* 13**,** 251-261.
HOOD, C. 1995. The "new public management" in the 1980s: Variations on a theme. *Accounting, Organizations and Society*, 20**,** 93-109.
HOOD, C. & PETERS, G. 2004. The Middle Aging of New Public Management: Into the Age of Paradox? *Journal of Public Administration Research and Theory,* 14**,** 267-282.
HOQUE, Z., ARENDS, S. & ALEXANDER, R. 2004. Policing the police service: a case study of the rise of "new public management" within an Australian police service. *Accounting, Auditing & Accountability Journal,* 17**,** 59-84.
HUGHES, T. P. 1987. The evolution of large technological systems. *In:* BIJKER, W. E., HUGHES, T. P. & PINCH, T. J. (eds.) *The Social Construction of Technological System – New Directions in the Sociology and History of Technology.* Boston MA: The MIT Press.
HUMPHREY, C. & GUTHRIE, J. 2001. Caught in an evaluatory trap: a dilemma for public services under NPFM AU - Olson, Olov. *European Accounting Review,* 10**,** 505-522.
JÖNSSON & LUKKA 2007.
JUSTESEN, L. & MOURITSEN, J. 2011. Effects of actor-network theory in accounting research. *Accounting, Auditing & Accountability Journal,* 24**,** 161-193.
KURUNMÄKI, L. 2004. A hybrid profession: the acquisition of management accounting expertise by medical professionals. *Accounting, Organizations and Society,* 29**,** 327-347.
LATOUR, B. 1987. *Science in Action,* Cambridge, MA, Harvard University Press.
LAW, J. 1987. Technology and heterogeneous engineering: the case of Portugese expansion. *In:* BIJKER, W. E., HUGHES, T. P. & PINCH, T. J. (eds.) *The Social Construction of Technological System - New Directions in the Sociology and History of Technology.* Boston MA: The MIT Press.
LOWE, A. 1997. The role of accounting in the processes of health reform: providing a 'black box' in the costing of blood products. *Management Accounting Research,* 8**,** 439-458.
LOWE, A. 2000. The construction of a network at health Waikato – the "towards clinical budgeting" project. *Journal of Management in Medicine,* 14**,** 210-239.

LOWE, A. 2001. Accounting information systems as knowledge-objects: some effects of objectualization. *Management Accounting Research,* 12**,** 75-100.
LOWE, A. & KOH, B. 2007. Inscribing the organization: Representations in dispute between accounting and production. *Critical Perspectives on Accounting,* 18**,** 952-974.
LUKKA, K. 1990. Ontology and accounting: the concept of profit. *Critical Perspectives on Accounting,* 1**,** 239-261.
MANOCHIN, M., BRIGNALL, S., LOWE, A. & HOWELL, C. 2011. Visual modes of governmentality: traffic lights in a housing association. *Management Accounting Research,* 22**,** 26-35.
MARSH, A. 2004. The inexorable rise of the rational consumer? The Blair government and the reshaping of social housing. *European Journal of Housing Policy,* 4**,** 185-207.
MCSWEENEY, B. 1997. The unbearable ambiguity of accounting. *Accounting, Organizations and Society,* 22**,** 691-712.
MILLER, P. & NAPIER, C. 1993. Genealogies of calculation. *Accounting, Organizations and Society*, 18**,** 631-647.
MILLER, P. & O'LEARY, T. 1993. Accounting expertise and the politics of the product: economic citizenship and modes of corporate governance. *Accounting, Organizations and Society*, 18**,** 187-206.
MORGAN, G. 1988. Accounting as reality construction: towards a new epistemology for accounting practice. *Accounting, Organizations and Society,* 13**,** 477-485.
MOURITSEN, J. 1999. The flexible firm: strategies for a subcontractor's management control. *Accounting, Organizations and Society,* 24**,** 31-55.
OGDEN, S. G. 1995. Profit sharing and organizational change: attempts to promote employee commitment in the newly privatized water industry in England and Wales. *Accounting, Auditing & Accountability Journal,* 8**,** 23-47.
PARKER, L. 2011. University corporatisation: driving redefinition. *Critical Perspectives on Accounting,* 22**,** 434-450.
PRESTON, A. M. 1992. The birth of clinical accounting: a study of the emergence and transformations of discourses on costs and practices in U.S. hospitals. *Accounting, Organizations and Society,* 17**,** 47.
PRESTON, A. M., COOPER, D. J. & COOMBS, R. W. 1992. Fabricating budgets: a study of the production of management budgeting in the national health service. *Accounting, Organizations and Society,* 17 561-593.
QUATTRONE, P. & HOPPER, T. 2005. A 'time–space odyssey': management control systems in two multinational organisations. *Accounting, Organizations and Society*, 30**,** 735-764.
REVELLINO, S. & MOURITSEN, J. 2009. The multiplicity of controls and the making of innovation. *European Accounting Review,* 18**,** 341-369.
ROBSON, K. 1992. Accounting numbers as "inscription": Action at a distance and the development of accounting. *Accounting, Organizations and Society,* 17**,** 685-708.
ROBSON, K. & BOTTAUSCI, C. 2018. The sociology of translation and accounting inscriptions: reflections on Latour and accounting research. *Critical Perspectives on Accounting,* 54**,** 60-75.
SHERMAN, D. & YOUNG, D. 2001. Tread lightly through these accounting minefields. *Harvard Business Review,* 79**,** 129-135.
SILVERMANN, D. 1993. *Interpreting Qualitative Data*, London, UK, Sage Publications.

SMYTH, S. 2017. Public accountability: reforms and resistance in social housing *Public Management Review,* 19**,** 212-231.

SOMBART, W. 1916. *Der Moderne Kapitalismus*, Leipzig: , Duncker and Humbolt.

TOMS, J. S. 2005. Financial control, managerial control and accountability: evidence from the British Cotton Industry, 1700–2000. *Accounting, Organizations and Society,* 30**,** 627-653.

TOMS, J. S. 2010. Calculating profit: A historical perspective on the development of capitalism. *Accounting, Organizations and Society,* 35**,** 205-221.

TREMBLAY, M.-S. & GENDRON, Y. 2011. Governance prescriptions under trial: on the interplay between the logics of resistance and compliance in audit committees. *Critical Perspectives on Accounting,* 22**,** 259-272.

WALKER, R. 2000. The changing management of social housing: the impact of externalisation and managerialisation *Housing Studies,* 15**,** 281-299.