

**Translating Accrual Accounting into health care:  
The case of the 2002 Norwegian Health Care Reform**

**Anne Isabelle Robbestad**

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## Introduction

During the last three decades, the public sector (health care in particular) underwent considerable changes (Kurunmaki, Lapsley and Melia, 2003). Western countries have been inspired by the ideology of New Public Management (NPM) and its focus on accounting (Olson, Guthrie and Humphrey, 1998; Hood, 1995). The fundamental hypothesis of NPM is that the introduction of accountability tools, based on private sector mechanisms, would improve the public sector's supposed lack of efficiency and help in controlling its growth (Hood, 1991; Pollitt, 1990). However, these new accountability tools, such as accrual accounting, which is the private sector's accounting framework, come from a different setting with their own rationale and concepts.

From the mid 1970s to the 1990s, the development and diffusion of NPM inspired reforms has been concentrated within the Anglo Saxon countries (Sahlin Andersson, 2001). From the 1990s and onward, Scandinavian countries such as Sweden or Finland have followed the NPM path with the implementation of accrual accounting. Other countries such as Germany, Italy, Netherland or Japan have so far hesitated or refused to jump on the accrual train (Ellwood and Wynne, 2005). Even though there are common features to the NPM reforms, Hood (1995) made the observation that there are significant variations between countries: from the early reformers (Great Britain, New Zealand and Australia), where reforms have been more complete and systematic to late imitators such as Norway, Switzerland, Germany and France where reforms have been more fragmented (Sahlin Andersson, 2001). Regarding accrual accounting, the differences encompass the level of implementation, the number of sectors as well as variations in norms and practice.

These many variations in NPM reform experiences and their outcomes question the alleged universal applicability of NPM mechanisms and tools, while focusing on the reasons for such variations. According to previous research, the implementation of accrual accounting has been a common denominator in many NPM reforms (Ellwood et al., 2005; Ellwood, 2001; Lapsley and Pallot, 2000; Guthrie, 1998; Stanton and Stanton, 1998; Froud, Haslam, Sukdev, Shaol and Williams, 1998; Pallot, 1997). However, findings show that functionalist studies have failed to explain the various outcomes of accrual accounting implementation in a public sector setting by merely focusing on the accounting technicalities such a radical accounting change triggers (Lapsley et al., 2000). One can therefore reflect on how a new frame of reference could provide the reasons for such various outcomes.

Consequently, the purpose of this thesis is to develop an understanding of the process(es) of introducing and implementing accrual accounting in a public sector setting, especially health care, as well as to explain the process(es) and outcomes by using the Actor Network Theory (ANT) frame of reference. Within the public sector, health care is a relevant sector for such an inquiry, since it has often been characterised as the favourite playground for NPM reforms. Moreover, it is a resource consuming and fast growing sector.



In particular, this thesis is about the adoption and implementation of accrual accounting in a country known as a reluctant reformer (Norway), where accrual accounting's entry has been limited to the health care sector (Mellempvik and Pettersen, 1998). The focus of the thesis is on the 2002 Norwegian health care reform. However, the study of the implementation of accrual accounting within the Norwegian health care setting is limited to the norm level. As a consequence, the thesis includes neither a study of accounting practice after the accounting change nor the use of accrual accounting within the new setting. However, the empirical study shows two levels of norms and highlights the importance of the norms because they are the basis for accounting practice.

The definition of accounting norms and practice varies. Consequently, the thesis uses Olson and Mellempvik's definitions (1996), where norms are about how accounting should be practised, while practice is concentrated on the activities related to the preparation of financial reports. As such, the norm concept is a broad concept including laws, standards and rules. Furthermore, a review of public sector accounting research within the Nordic countries, covering 1980 to 2003, showed that 90% of the studies reviewed dealt with studies at the local level, while almost  $\frac{3}{4}$  of the studies focused on the use of accounting (Mellempvik, Gårseth- Nesbakk and Olson, 2005). As such, this thesis makes a contribution by studying accounting change processes at different norm levels.

For Sahlin-Andersson (2001) the outcomes of reforms are conditioned by national and transnational influences. More generally, it means that one has to pay attention to the context in which these accounting changes have been introduced and implemented. Actor Network Theory (ANT), which is also called the sociology of translation or translation theory, is an alternative research approach in accounting research (Baxter and Chua, 2003) and is the overall analytic framework of the thesis. The Latourian research, on which ANT is grounded, highlights: "...*the very long networks that translate values of external policy makers into organizationally located management accounting practices - reproducing and fortifying these sources of power anew*" (Baxter et al., 2003, p105).

The strength of ANT is to help understand the outcomes of complex change processes based on the dynamic created between human and nonhuman elements. ANT draws attention to the fact that faith in an innovation is contingent upon the context in which it is introduced. In ANT, innovations are new technologies (such as accrual accounting), which will convey various needs and interests since they are introduced and implemented in a setting, and as such get transform and transform the above-described elements towards their institutionalization. ANT's contribution is what Hansen and Mouritsen call "*a constructivist or performative perspective on action*", where the innovation "*is constructed or performed by actors*" (2005, p.129).

Construction can be defined as: "...*the way accounting, together with other practices, serves to construct a particular field of visibility*" (Miller and O'Leary, 1987, p. 239). For Latour, translation is "... *the interpretation given by facts builders of their interests and the people they enrol*" (Latour, 1987, p.108). In this thesis, the term translation has been used instead of construction to describe and analyse the process of introducing and implementing accrual accounting into the Norwegian health

care because I want to place the focus on issues of power during such an accounting change process. Furthermore, I also want to highlight the fragility and arbitrariness of the outcomes of change processes, since for ANT power is contextual (Latour, 1986). Power is obtained during the change process, since an actor is able to mediate the various interests of other actors through the technological innovation. Since a result, the focus of the thesis is not on the accounting outcomes per se, even though they are described in the thesis.

Accrual accounting techniques and concepts visualize the value creation process in a company, measured in terms of its financial performance. These techniques and concepts are based on private sector market mechanisms that do not fit into a public sector setting, without any further adjustments. Since such, when accrual accounting is introduced and implemented, its translation, that is its outcomes within the new setting (public sector), will be in the hands of the people involved in the change process and especially in the hands of the person(s) who manage to control the path of the process: from politicians with a focus on expense control conditioned by the boundaries set by a one-year perspective of budget allocations, to health care managers seeking financial information relevant for their decision-making. For that reason, accrual accounting – that is its role and content (outcomes) – is not a neutral tool visualizing an entity in financial figures but instead, the product of a social process. Since a consequence, some elements of the innovation are left out, emphasized, added or modified.

Therefore, the fundamental ANT concept of translation is particularly suitable for this case study, since there have been many accrual accounting implementations with various outcomes and such subject to numerous mutations or translations (Lapsley et al., 2000). Although the 2002 Norwegian health care reform has been the subject of previous research, accrual accounting as a key element of the reform has not been studied before, making this longitudinal case study stand out.

Prior research has emphasized the importance of the context in which reforms and accounting changes are enacted. Some researchers (Pettersen, Nyland and Østergren, 2009; Læg Reid, Opedal and Stigen, 2005; Ferlie, Ashburner, Fitzgerald and Pettigrew, 1996) have argued that NPM reforms outcomes are contingent on a broad context including political, historical and cultural factors, while others partly attribute the differences to the structure and funding of the sector in which the implementation takes place (Ballantine, Brignall and Modell, 1998). Within the accounting field, Ellwood et al. (2005) claimed that accrual accounting does not necessarily fit any public sector entity and as such has to be “*assesses in context*” (p.158). Bourmistrov and Mellemvik (2001) focused on the human dimension of the context when studying accounting, since they view accounting as a social construction. Læg Reid et al. (2005) previously studied the 2002 Norwegian health care reform as an example of NPM inspired reform. They used three different theoretical approaches (instrumental, institutional and environmental), which take into account the macro level contextual factors, in order to understand and explain the outcomes of the reform. ANT’s advantage, as a theoretical framework, is to set the researcher free from the traditional distinctions between agent (actor) and/or structure (entity) or levels (macro/micro) so that it is the description and analysis of the

context itself in which the adoption or implementation processes in focus take place. As such, the use of ANT stands out from previous research, with the ANT concept of actor-network linking levels, agents and structure together. Therefore, ANT can help to enrich the empirical evidence of NPM reform experiences and their outcomes.

The case of the 2002 Norwegian health care reform is worth studying for two reasons.

The first reason is that the 2002 Norwegian health care reform was a radical one since Norway previously has been characterised as a slow mover and a reluctant reformer of the public sector (Bleiklie, 2000, Mellempvik et al., 1998). Norway is considered radical since with the reform it introduced and implemented: accrual accounting for the first time within the public sector setting. Since such, Norway finally followed more “radical” countries such as Great Britain, New Zealand and Australia, which took the accrual path over two decades ago. This way of reforming resembles the description of UK implementation made by Pollitt and Bouckært (2000). Therefore the reform departed with the Norwegian reform tradition of avoiding radical changes as well as with Norway’s previous reluctance to implement new ideas promoting private sector values (Mellempvik et al., 1998; Olsen, 1996).

The Norwegian paradox between the reluctance to implement radical changes, based on new managerial ideas, and the decision to do so, illustrated with the 2002 health care reform, can be explained by its historical context. For many centuries, Norway has been under the sovereignty of other States (Denmark and Sweden). Since Norway’s own sovereignty is just over a century old, this results in a struggle between being independent as well as belonging to a broader international community (Mellempvik et al., 1998). Furthermore, even though Norway is a wealthy oil country, the desire to maintain a strong welfare system has been a heavy weight on public sector expenditures. Consequently, since the late 1980s, a growing need to control public expenditure has forced the Norwegian central government to reform the management of public sector and health care in particular (Mellempvik et al., 1998).

The second reason is that the reform was ambitious, even though accrual accounting’s entry was limited to one sector (health care), since it was adopted and implemented within a very short time period. The overall aim of the reform was to improve the management of health care by introducing private sector mechanisms, especially accrual accounting. One of the two aims of the 2002 Norwegian reform was to strengthen national control. Therefore, central government took over hospital ownership from the counties in addition to an already existing central funding system regulating hospitals activities. Under the central government, there are four regional legal entities called Regional Health Enterprises (RHE), which are merely administrative entities with no hospital function of their own (Lægneid et al., 2005).

The second aim of the reform was to grant a higher autonomy at the provider level (regional and local levels) by reorganizing hospitals into autonomous legal entities called Health Enterprises (HE)

under the RHE. As a consequence of the organizational change, hospitals have to comply with the accounting framework of the private sector (accrual accounting). However, with regard to the rest of the Norwegian public sector, the local government (LG) accounting (counties and municipalities) model mixes elements from public and private sector accounting, while the central government (CG) follows a cash-basis accounting model, but with modifications (Mauland and Mellemvik, 2004). This is a good illustration of the variety and complexity of NPM reform accounting implementations. Such complexity can help to explain the difficulty of anticipating implementation process outcomes.

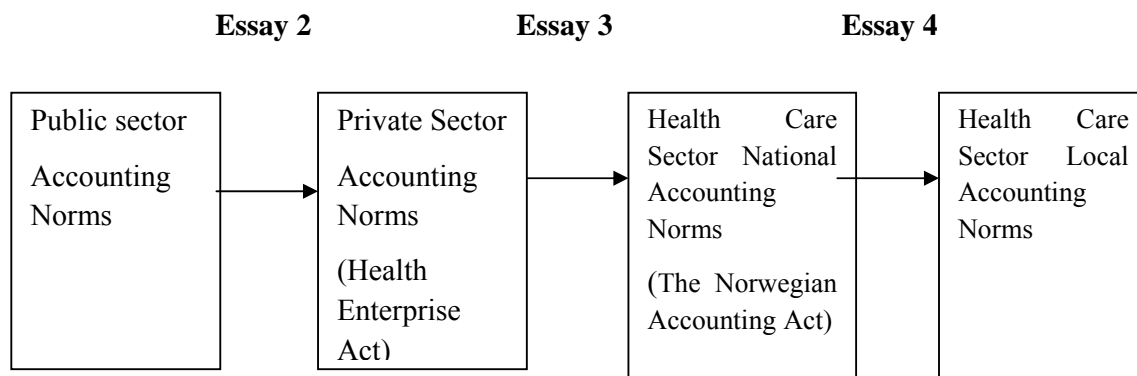
Throughout the case study, ANT placed the focus on the roles of actors or groups of actors, in particular, how actors use rhetoric and equip themselves with heterogeneous tools (texts, calculations, accounting devices and IT systems) to control accrual accounting's implementation path in accordance with their own goals and interests. The thesis focuses on two elements that could have an influence on the outcomes of the NPM inspired accounting reform. The first element is the relationships between the different actors (groups of actors) involved in the processes studied, especially the power balance between these actors. The second element is related to the first one. It is about the importance of the role played by the nonhuman elements within change processes instead of merely focusing on human agency. According to Miller, ANT helps to study the "*constitutive role of calculative practices*" (Miller, 2001, p.393). This means that accounting devices help to interact with and transform human actors and by that help to shape change processes and their outcomes.

## Design and empirical method

### Design of the study

The thesis includes four essays: a literature review (Essay 1) and three empirical studies (Essays 2, 3 and 4). Because ANT is the theoretical framework used in the empirical studies, the first part of Essay 1 introduces ANT and its fundamental concepts and the second part is a literature review based on accounting journals. The focus is on previous empirical public sector accounting studies, especially in health care using the ANT framework. Essays 2, 3 and 4 are part of a longitudinal case study following the 2002 Norwegian health care reform process from the adoption of accrual accounting (Essay 2) to its implementation at the national level (Essay 3) and regional/local levels (Essay 4). This concerns a period stretching over eight years (2001-2009).

Essay 2 is about the societal and political processes leading to the adoption of the 2002 Norwegian health care reform. In particular, the essay focuses on the cornerstone of the reform; the organizational change where hospitals were reorganized into autonomous legal entities called Health Enterprises (HE). Essay 3 is about the implementation at the national level of new accounting regulations, based on the private sector accounting framework, a consequence of the new status of HEs. Essay 4 is about the further implementation at the local level (hospitals) of the new national health care accounting norms.



The figure visualizes the introduction and the implementation processes of accrual accounting into the Norwegian health care setting. The implementation processes encompass two different norm levels.

## Empirical method

With the ANT framework, an inductive approach was best suited, since I was looking for explanations to the outcomes of accounting change processes. I chose a case study design where I studied the three different, yet successive change processes mentioned above (E2, E3 and E4). The case study approach follows the Scandinavian accounting research tradition (Grønhaug, Mellempvik and Olson, 1997). Viewing the public sector's accounting change processes through the lens of the ANT framework is an untraditional choice in the accounting field. There are exceptions: within a public sector setting (Skærbæk, 2009; Skærbæk and Thorbjørnsen, 2007; Gendron, Cooper and Townley, 2007), in particular within the health care setting (Lowe, 2001; Lowe, 2000; Chua, 1995; Lawrence, Manzurul and Lowe, 1994; Preston, Cooper and Coombs, 1992). However, none of the studies have covered an accounting change from its adoption to its implementation at different norm levels.

## Study objects

In Essay 2, the study object is a law called the Health Enterprise Act, which regulates the new hospital status of Health Enterprise (HE). In Essay 3, the study object is the Norwegian Accounting Act, since the Health Enterprise Act specifies that the HEs have to comply with this act to report financial information. In the last empirical study, Essay 4, the study object is both the Norwegian accounting Act and its related standards since the study deals with the further translation of the national health care accounting norms into local health care accounting norms.

## Data collection

ANT belongs to a constructivist Science and Technology research perspective, where the belief in an innovation can be seen as an outcome of a process tying together its technical characteristics with the

social context in which it is implemented (Bijker, 2001). Furthermore, the data collection follows Latour's recommendation about a research method he calls "*the insights of ethnomethodology*" (Latour, 1999, p.19). This means that based on observations, interviews or texts, the researcher closely follows the actions of actors within their social context. Therefore, most of the ANT empirical studies are longitudinal studies combining observations, interviews and archival data in order to provide a rich description of the process studied.

Therefore, I was faithful to the ANT methodology: I, the researcher, became an "ant" (Latour, 2005). This "ant" tries to follow as closely as possible the actors involved in the change process through data collection. During the adoption and especially the implementation process, different groups of actors (the social world) interact to give the innovation a specific purpose. This means that accrual accounting (the innovation) will be understood (translated) in different ways according to the interests and aims of the different groups. The innovation is then seen as a flexible artefact, which can be interpreted differently (Bijker, 2001, p.15525).

The data collection does not include observations. However, this is compensated by my knowledge of the setting. I have worked for more than ten years (1991-2001), since a finance manager in Norwegian health care system, especially in one of the entities studied (a Health Enterprise called Helse-Fonna). After the adoption of the reform (June 2001), I was involved in the preparation of accrual accounting implementation until December 2001. As such, I have good knowledge about the setting, the issues studied and some of the actors involved. My "ant" story is based on archival data (texts) and interviews to trace the participating actors during accrual accounting translation into the Norwegian health care.

The focus of the three empirical studies and the entities studied vary. Accordingly, the actors involved and the data collected vary. In Essay 2, actors are mostly political actors at the national level. Essay 3 focuses on administrative actors from the central government, especially from the Ministry of Health and Care Services. However, auditors from the private sector are also involved as well as concerned groups such as the Accounting Academia. The two studies are based on secondary data (archival data) such as documents issued by the central government as well as supporting documents mentioned as references.

Additional documents such as academic works, published articles, newspaper clips and public speeches were also used to complement the description of the processes studied. The documents were crosschecked with one another to corroborate my story based on the data collected. Furthermore, Essay 3 includes an interview with a key person involved throughout the whole process to confirm the relevance of the accounting issue chosen to illustrate the process (the valuation of HEs fixed assets).

In Essay 4, the case study focuses on the interactions from local actors from one of the fourth Regional Health Enterprises (RHE) and from two Health Enterprises within this RHE. However,

national actors from the Ministry of Health and Care Services are also involved in the translation of national health care norms into local norms. The data collected include archival data and interviews. The interviews are semi-structured because I wanted to allow the respondents to tell their “own story”, while describing my own story of the translation. As the interviews progressed, supplementary documents were collected to provide detailed information on the technicalities of the process and to corroborate the statements of the respondents. Twelve interviews were conducted in 2008 with follow-up questions during the fall of 2010. The transcripts amount to approximately 180 pages. Quotations from the interviews are translated from Norwegian to English by the author.

<b>Table 1</b>			
Empirical studies	Actors	Primary data	Secondary data
Essay 2	National (political actors)	None	Archival data
Essay 3	National (public and private sector)	One interview	Archival data
Essay 4	Mostly local	Twelve interviews	Archival data

Table 1 describes the different types of organizational actors participating in the accounting change processes and the type of data collected.

### **Validity issues**

True to the tradition of ANT studies, the story does not claim to be objective. It reflects first and foremost a reality reconstructed by me through the data collected (Alcouffe, Berland and Levant, 2008). This “storytelling” is both a strength and a weakness of ANT. It is a strength because the researchers have the freedom to choose which actors to follow since well since the starting and ending points of the description. It is a weakness, because ANT studies may be considered as fictional (Chua, 1995), which “*reflect any reality other than that of its authors*” (Alcouffe et al., 2008, p.10). As such, the use of ANT risks being given less credibility in the accounting research community even though this inductive approach may help to provide new sources of explanations to the varying outcomes of NPM accounting change processes.

According to Callon, the sociology of translation, especially the concept of translation is about defining and attributing roles well “*the delineation of a scenario*” (Callon, 1986, p.25). He adds: “*It speaks for others but in its own language*” (Callon, 1986, p.25). The focus is more on a description, which becomes an explanation and since such contributes to research on its own premises (Latour, 1991). As Latour puts it: “*We want to describe and expose the politics of explanation, but without replication and without adding another discipline to the plethora already striving for existence..... We are looking for weaker, rather than stronger, explanations, but we still would like these weak*

*accounts to defeat the strong ones*” (Latour, 1988, p.165). As such, ANT accounts by nature fail the traditional acid test of validity issues. The main concern of the researcher is about telling a story which is interesting, that engages people, a criterion that might replace a more traditional criterion of validity influenced by a positivist view referring to: “...a supposedly “out there “reality” (Quattrone, 2004, p. 241). Furthermore, ten years ago, Stone (2001) already acknowledged the need for writing accounting stories as a lost tradition within accounting research in order to contribute to a greater understanding of the complexity of accounting practices.

The next section summarizes the four essays based on their abstracts.

## The Four essays

### **Essay 1: An introduction to Actor Network Theory (ANT) and a review of its use within the public sector empirical accounting studies**

The aim of the essay is two-fold. The first part is an introduction to the ANT framework and its fundamental concepts. The second part is a literature review of 14 top-ranked Anglo Saxon accounting journals on previous empirical public sector accounting studies, especially health care using the ANT framework. Twelve studies are included in the review, whereas five are health care studies. The literature review shows how ANT has been used to study accounting change processes within a public sector setting, including health care, and the contribution of ANT to such studies.

In accounting research, the empirical studies that were reviewed help to fill a gap acknowledged by Chua fifteen years ago. Chua claimed that there is a lack of “*detailed ‘micro’ ethnographies of the making up of accounting numbers in organizational settings*” or more generally studies “*that portray and comment on the tactics, tools and tribulations of account fabrication*” (Chua, 1995, p.114). Since such, the studies reviewed follow what Mackenzie (1996, p.59) called “*ethno-accountancy*”, which is first and foremost to describe how accounting is practiced. Eight of the twelve studies deal with new practices in performance measurement (Skærbæk, 2009; Skærbæk et al., 2007; Lowe, 2001; Lowe, 2000; Chua, 1995; Preston et al., 1992) or new reporting practices (Christensen and Skærbæk, 2007; Cuganesan, Boedker and Guthrie, 2007). One study encompasses the norms and practices in performance measurement (Gendron et al., 2007). The remaining three studies are more at a normative level dealing with new accountability standards (Lawrence et al., 1994) or strategy choices (Skærbæk et al., 2009; Skærbæk and Melander, 2004).

ANT’s contribution to accounting change processes, based on the reviewed studies, can be summarized in four findings. The first finding is that one cannot separate the technical (accounting innovation) from the social context in which it is enacted. The second finding is the relationship of the power balance between actors involved and the change process outcomes. According to ANT, power is contextual and is associated with the notions of control and order. Control and order are illustrated by the ANT concept of black box (control) and the more recent concepts of framing (order) and overflowing (disturbance of order). The framing concept is associated to the concept of Obligatory Point of Passage (OPP), which is also about control. OPP is used in three recent studies (Skærbæk, 2009; Skærbæk et al., 2009 and Christensen et al., 2007). Seven of the studies (including all the five health care studies) use the concept of the black box. The ANT assumption behind this



concept is that in order to maintain control over of a process, one has to black box as many elements as possible to prevent controversies and stabilize the process outcomes. However, four studies highlight the fragility and the temporality of power and dominance (Skærbæk et al., 2009; Skærbæk et al., 2004; Lowe, 2001; Lowe, 2000).

A third finding is the importance of the nonhuman elements. The ANT concept of translation is a feature common to all the empirical studies. During change processes seen as translations, human elements are linked together with nonhuman elements (often called actants) in constructed associations (networks) in order to achieve specific outcomes. Therefore, the role of actants, such as accounting devices or IT systems, is a central issue in the studies reviewed. The studies' findings acknowledge the constitutive role of accounting in public sector accounting change processes. However, the role and influence of accounting devices on the outcomes of change processes do vary among the twelve studies. The influential role of actants is reinforced by the ANT concept of performativity, described in Skærbæk et al. (2009). This means that actants not only influence the process outcomes but also help to transform and form the identities and behaviours of organizational members (Skærbæk, 2009; Skærbæk et al., 2007; Lowe, 2001 and 2000).

The last finding is about the constitution of a new organizational knowledge in the public sector. In all the studies, the issue of expertise is relevant, even though only four studies focus on the role of experts. Central agencies (Christensen et al., 2007) or public sector auditors (Skærbæk, 2009; Gendron et al., 2007 and Skærbæk et al., 2007) become experts since they are appointed to enact NPM reforms through the translation of accountability innovations into the new setting. However, their success or failure is contingent on their abilities to build supporting networks made up of human and nonhuman elements. The translation concept is used to visualize this fact building process with step-wise movements (and transformations) from one level to another (and maybe back and forth) describing the involvement of actors and actants to support (or reject) the accounting innovation. The expertise issue also emphasizes the fact that, for ANT, power is relational since it is the strength of the network that is constructed that will lead to the desired outcomes.

As a summary, the studies reviewed show the relevance of the ANT methodology in studying complex accounting change processes. In particular, ANT draws attention to power issues and the constitution of a new organizational knowledge. Although the studies reviewed help to fill a research gap about the construction of accounting numbers in a public sector setting, they only show a partial picture since they are limited to one translation (norms or practices).

## **Essay 2: Black boxing accrual accounting into health care: the 2002 Norwegian health care reform**

The cornerstone of the 2002 Norwegian health care reform was a structural change, where central government overtook from counties the ownership of public hospitals and reorganized them into autonomous legal entities, called Health Enterprises. Accrual accounting, the private sector's accounting framework, was introduced into the Norwegian public sector as a consequence of the new

organizational frame. How Norway, known as a reluctant reformer (Bleiklie, 2000), could pass and reinforce, a reform leading to such a radical accounting change in just a few months is an interesting issue.

The aim of the empirical study is to describe and analyse the social and political processes of the 2002 Norwegian health care reform to find out how accrual accounting came into the Norwegian health care setting. Through the use of the ANT framework, the study tries to provide answers to the following research question: *How was accrual accounting introduced into the Norwegian health care setting?* ANT has been previously used in accounting research (Skærbæk 2009; Skærbæk et al., 2007; Gendron et al., 2007) and health care in particular (Lowe, 2001; Lowe, 2000; Chua, 1995; Lawrence et al., 1994; Preston et al., 1992). However, the methodology has not yet been applied to study the adoption process of an accounting change prior to its implementation.

The essay draws inferences from ANT to highlight how actors (human and nonhuman) gained a power position by being temporarily linked together, enabling the introduction of accrual accounting. The first finding of the study is about the relationship between power and change process outcomes illustrated with the ANT concept of actor-network. The empirical finding highlights the fact that power is contextual, built through carefully constructed associations of human and nonhuman elements (Latour, 1986). The second finding deals with the complexity of accounting change processes and is illustrated with the ANT concept of the black box. Accrual accounting was kept as a closed black box, hidden within a bigger and more intricate black box called “Health Enterprise”. As such, endless technical controversies and delays were avoided and political actors managed to keep the accrual accounting’s black box closed long enough to pass the reform within the time schedule.

### **Essay 3: Translating private sector accounting norms into the Norwegian health care setting**

The aim of the empirical study is to describe and analyze the implementation process of accrual accounting, after the adoption of the 2002 Norwegian health care reform, in order to provide explanations for the various outcomes of NPM inspired accounting reforms. The study focuses on the following research question: *How are private sector accounting norms translated into public sector health care accounting norms?* The Actor Network Theory (ANT) is used to highlight the role and influence of the different actor-networks during the translation process leading to new national health care accounting norms.

During the adoption process of the 2002 Norwegian health care reform, the Minister of Health and Care Services promoted the benefits of introducing accrual accounting into Norwegian health care by de-contextualizing it. The first finding of the study is that this de- contextualization creates problems and complexity during the translation process. As a consequence, the process is characterised by a power struggle between the actors involved, which conditioned the outcomes. The second finding is about the role of financial statements illustrated through the ANT concept of boundary objects. The content and purpose of financial statements vary according to the accounting framework on which

they are based. As such, they are malleable and versatile, complying with the definition of “boundary objects” (Leigh Star and Griesemer, 1989). In the translation process of private sector norms, the content and purpose of financial statement are the ultimate goal of the power struggle. Unlike previous studies about boundary objects (Emsley, 2008, Åkerman and Peltola, 2006, Briers and Chua, 2001 and Leigh Star et al., 1989), this study shows that boundary objects failed to bridge different actor-worlds based on different rationales. This can be explained first and foremost because the central agency (CG) in charge of the implementation at the norm level puts the fulfilment of its own interests first.

The contribution of the study is to provide explanations to the various and sometimes unexpected outcomes of NPM inspired accounting reforms by focusing on power issues. ANT helps to explain how a radical accounting innovation (accrual accounting) was successfully implemented at the norm level, departing from the traditional and cautious Norwegian way of reforming.

#### **Essay 4: Translation of national health care accounting norms into local health care norms: the constitutive role of actants**

The empirical study’s purpose is to provide answers to the following research question: *How are national health care accounting norms translated into local health care accounting norms?* The focus is on the translation of national health care accounting norms into local health care accounting norms, viewed as a process of actor- network building. Using Actor Network Theory (ANT), the aim of the study is to describe and analyse the translation process in order to provide explanations for its outcomes. In particular, the study draws attention to the role of human and nonhuman actors and their interactions, since findings from accounting research in Nordic countries have visualized accounting practice as an outcome of complex organizational and societal processes. Although this line of research has shown the influence of the context in accounting change processes, the research has solely focused on the role of human elements (Bergervarn, Mellemvik and Olson, 1995). The empirical case study is based on primary and secondary data (interviews) collected in one Regional Health Enterprise (RHE) and two Health Enterprises (HEs). The study can be summarized in two findings.

The first finding deals with complexity and organizational knowledge. This is illustrated with the ANT concepts of translation and actor-network. Actors from three organizational levels<sup>1</sup> with different information needs and priorities are linked together in the translation of the national health care accounting norms. While accrual accounting is implemented at the regional and local levels, the formal owner of health care, the Ministry of Health and Care Services, operates at the national level in a cash accounting rationale focusing on resources control. Especially during the first 3 and a half years of the process, the uncertainty about whether the national health care accounting norms would be based on the accrual accounting framework or not caused controversies that influenced the pace

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<sup>1</sup> National, regional and local

of the local translation. Since accrual accounting was to be implemented for the first time in the Norwegian public sector setting, regional and local actors had to build a new organizational knowledge to be able to translate the national accounting norms. The concept of translation visualizes this gradual and step-wise process.

Contrary to previous ANT accounting studies about NPM reforms and organizational knowledge (Skærbæk, 2009; Christensen et al., 2007; Gendron et al., 2007; Skærbæk et al., 2007), this study shows that it is the local actors who progressively build a new organizational knowledge through the use of supporting networks inside and outside the public sector's boundaries. Moreover, while previous accounting studies have emphasized the central role of public sector auditors during accounting change processes, in this study it is the private sector auditors who helped organizational members to build this knowledge (Skærbæk, 2009, Skærbæk et al., 2007 and Gendron et al., 2007). However, the involvement of the private sector auditors instead of the public sector auditors may limit the possibilities of transferring the newly constituted knowledge to other parts of the Norwegian public sector such as Education.

The second finding deals with the constitutive role of nonhuman elements. This is illustrated by the ANT concepts of actants, especially inscriptions, translation and black box. Nonhuman elements (described as actants) play a central role in the translation of national health care accounting norms for two reasons.

The first reason is that nonhuman elements, defined as inscriptions, erase the macro/micro levels and enable control at a distance. The central government (the Ministry of Health and Care Services) is the formal owner of the health care sector and needs financial information about hospital performance in order to control their use of resources. However, the decentralized model of the reform, where hospitals are autonomous legal entities (HEs) under a regional administrative entity (RHE), limits the central government's possibilities of interfering in the management of the HEs. Therefore, CG uses accounting devices, seen as inscriptions, so that the local norms comply with central needs of comparability and budget control. Furthermore, the inscriptions become more powerful since they are combined together and enable control – yet at a distance. As such, the study shows that the use of multiple interrelated inscriptions can be assimilated to black boxing (Bonner and Chiasson, 2005). Inscriptions as black boxes condition organizational members to produce financial information in a pre-determined manner according to the central agency's information needs and goals.

The second reason is that, according to previous ANT empirical accounting studies, actants have the capacity to transform the behaviour and identities of organizational members (Skærbæk, 2009; Skærbæk et al., 2007; Lowe, 2001 and 2000). However, in this study, actants both transform organizational actors and are transformed by these actors. During the translation process, organizational actors are transformed since they develop in the public sector an organizational knowledge based on the private sector's legislation. However, the legislation (the actant) also gets transformed since it is enacted in a different setting leading to new outcomes (the local health care accounting norms).

While public sector ANT studies have previously shown organizational change as an outcome of black boxing processes controlled mostly by central agencies, it is here local actors control the change process (Skærbæk et al. 2009; Bonner et al., 2005; Skærbæk et al., 2004; Lowe, 2001; 2000; Chua, 1995; Lawrence et al, 1994; Preston et al., 1992). Furthermore, this study highlights the instability of the black boxing process since black boxes (national and local norms) are continuously reopened intact with the increasing organizational knowledge.

## Conclusion of the thesis

The overall objective of the thesis is to develop understanding on the process (es) of introducing and implementing accrual accounting into a public sector setting, especially health care. The ANT framework is used to provide new sources of explanation to the various outcomes of NPM inspired accounting reforms. Setting aside the traditional boundaries of macro/micro levels, ANT focuses on actors and how these actors try to control the path of the accrual accounting change by building heterogeneous associations made up of human and nonhuman elements.

Before starting the study of the 2002 Norwegian health care reform and in particular the implementation of accrual accounting, I had anticipated observing a complicated process. My assumption of complexity was based on two reasons. The first reason was related to previous research highlighting the specificities of the Norwegian setting. In the research literature, Norway has been characterised as a reluctant NPM follower (Bleiklie, Høstaker and Vabø, 2000; Mellempvik et al., 1998). When finally following the NPM path, with the 2002 health care reform, Norway limited accrual accounting's adoption and implementation to one sector (health care) in the whole public sector setting. Norway's tradition of being a cautious reformer and the fact that Norway had no prior experience about implementing the accrual accounting's framework into a public sector setting suggested a complicated implementation process. The second reason was related to the complexity in introducing NPM reforms. Previous literature on NPM reforms, especially the various and sometimes unexpected outcomes of accounting change processes supported my assumption (Christiaens and Rommel, 2008; Olson, Humphrey and Guthrie, 2007; Hodges and Mellett, 2006; Olson and Sahlin Andersson, 2005; Pettersen, 2004; Pina and Torres, 2003; Elwood, 2001; Lapsley et al., 2000; Lapsley, 1999). As a consequence, I designed the empirical case study with three separate case studies (Essays 2; 3 and 4).

This section is divided into four parts. The first part introduces briefly five of the main ANT concepts used in the three case studies<sup>2</sup>. The second part summarizes the whole accrual accounting process and the main finding of the thesis through the selected ANT concepts. The third part presents

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<sup>2</sup> This short introduction is based on the description of the ANT framework made in Essay 1.

the contribution of the thesis to accounting research. The last part deals with relevant issues for future research.

### **The main ANT concepts used in the three case studies**

The key concepts are: translation, the actor-network, actants, the black box and the obligatory point of passage (OPP). These concepts are selected as being the most relevant to understand the Norwegian case study of an accounting change process.

#### **The concept of translation**

According to Latour, translation has a dual aspect of movement and gradual transformation enabling new connections, which will, to some extent, change several “*elements or agents*” (Latour, 1994, p.32). Translation is a displacement where human and nonhuman elements act together, influencing each other in temporary alliances and by that process becoming transformed (Latour, 1991, Latour, 1986). The notion of transformation implies a process where the initiator of a change tries to channel other actors’ interests through successive displacements to associate them to the cause and by that growing powerful enough to control the process outcomes.

#### **The concept of actor-network**

Actor and network are not two different parts (agency and society) but closely interrelated elements where the social is just seen as a “*certain type of circulation*” and where circulating entities are linked together in particular associations (networks) that may lead to changes (Latour, 1999, p.19). A network can be assimilated into a structure that gathers and transfers heterogeneous elements, which enable the context to be translated towards the achievement of a specific aim. A network can be anything as long as one manages to capture the movements, actions and successive transformations generated by actors (Latour, 2005). The concept of actor emphasizes the fact that every participant is actively contributing to shape the outcomes of the transformation process based on their own scheme (Latour, 1986). As such, the term actor has connotations with power and machinations since actors evolving in a social context are competing with other forces (human, nonhuman) that will attempt to influence their actions, define their roles, or shape their identities during a translation process (Latour, 1986).

#### **The concept of actant**

Latour defines an actant as: “*that is, something that acts or to which activity is granted by others.... An actant can literally be anything provided it is granted to be the source of an action*” (Latour, 1996, p 373). Like the actor concept, this broad definition wipes out the distinction between human and nonhuman elements since the latest are also granted the ability to influence others through their own actions. The term “*inscription*” is also used by Law to describe a specific category of actants facilitating action and control at a distance (Law, 1986). Inscriptions are made up of written features and can be guidelines or strategy documents for example.

### **The concept of Black Box (BB)**

A black box can be defined as: “*a closed file, an indisputable assertion*” (Latour, 1987, p.23). The concept of black box is important not only as an outcome of a change process, where an innovation is ultimately accepted by its potential users, but also during the process, where a black box can be used as a device to interest, enroll and convince actors to be a part of the network. The logic behind the mechanisms of a black box is to prevent questioning and controversies. Black boxing is “*...a process that makes the joint production of actors and artifacts entirely opaque*” (Latour, 1994, p.36). It is this opacity that prevents resistance. As such, black boxing is associated with domination and power (Latour, 1991).

### **The concept of Obligatory Point of Passage (OPP)**

The concept of obligatory point of passage (OPP) can be defined as a channel through which one has to pass in order to solve a problem. This channel can be human (like a group of actors), nonhuman or a combination of the two. If it is nonhuman, it can be a physical location such as a laboratory for Pasteur (Latour, 1983) or an inscription such as a research program (Callon, 1986).

## **How ANT concepts help in understanding the outcomes of the accrual accounting’s adoption and implementation processes into the Norwegian health care setting**

In this section, I illustrate the main finding of the thesis, which is the relationship between the accounting change process outcomes and power using the above-described ANT concepts. In particular, the ANT concepts draw attention to the fact that power is contextual, built on heterogeneous associations of human and nonhuman elements, which have to be stabilized, even temporarily, to achieve the desired outcomes.

### **Translation:**

Throughout the Norwegian health care empirical study, translation illustrates struggles: back and forth movements, detours and transformations since actors with different rationales and interests are participating in the accounting change process and trying to fit the accounting innovation into the fulfilment of their respective goals. Furthermore, translation draws attention to the dynamic and the complexity of the change process since not only the innovation is transformed during its introduction into the new setting, but also the organizational actors involved in its implementation.

The accrual accounting change process starts with a detour (first empirical study) since it is management ideas, inspired by the NPM trend, which are translated into the Norwegian health care setting: with the 2002 Norwegian health care reform based on a new organizational framework, where hospitals are reorganized into Health Enterprises. Then the complexity and the dynamic of the process increase (second empirical study) with back and forth movements and struggles illustrated

by five different translations of accrual accounting put forward by the CG and private sector accounting experts as the CG tries to control how the new national health care accounting norms should be. Finally, the process shows transformations (third empirical study) as the local actors (RHE and the two HEs) gradually build their own expertise towards the constitution of a new organizational knowledge (local accounting norms). The greater their expertise gets, the more detailed and complicated the local accounting norms become, as new challenges are unravelled and solutions are found that keep transforming and destabilizing the innovation.

### **Actor-network:**

Throughout the Norwegian health care empirical study, actor-network illustrates how power is obtained through specific constellations of human and nonhuman elements. During the accrual accounting change process, power is first obtained with an actor-network where political actors from three major political parties with different interests are temporary linked together (first empirical study) to trigger the adoption of accrual accounting. Then an actor network based on private sector's accounting experts comes into a power position as these actors manage to enrol political actors and by that defeat the CG's view (second empirical study) about the new national health care accounting norms. At the end of the implementation process (third empirical study), local administrative actors (RHE and HEs) are the ones in power linked together in an actor-network stretching over the organization's boundaries to encompass private sector's auditors.

### **Obligatory Point of Passage (OPP):**

OPP is only used in the last two phases of accrual accounting introduction into the Norwegian health care setting (implementation). During the first phase of the implementation process (second empirical study), OPP illustrates how the CG tries to regain a power position since the CG failed to convince reluctant actors of its translation about how national health care accounting norms should be. As such, the CG put forward a mandatory accounting regulation (seen as an OPP) in order to channel the process into the CG's rationale of national budget contingencies. However, political actors do not accept the CG's path (the OPP) and they reject the regulation. As a consequence, the CG is not able to control the outcomes (national health care accounting norms). During the second phase of the implementation process (third empirical study), a few local actors are assimilated to OPP. These are the RHE's chief accountant and the private sector auditors who are associated to the translation of the national health care accounting norms. OPP illustrates here who controls the path, the pace and the content of the translation of the national health care norms due to either their hierarchical position (the RHE's chief accountant) or to their accounting expertise (the private sector auditors).

### **Actant:**

Throughout the Norwegian health care empirical study, there is a power struggle about the translation of accrual accounting into the Norwegian health care setting and the role of nonhuman elements (actants) is central in this struggle. Furthermore, the actants' role expands from the



adoption to the implementation of the accounting innovation. During the adoption process (first empirical study), actants are devices subordinated to human elements (political actors) helping these actors to gain a power position in order to fulfil their own goals and interests. The main actants are the Health Enterprise model and a new health law, called the Health Enterprise Act, regulating the statuses of the HEs.

During the implementation process, actants are more assimilated to actors since they influence the outcomes in force of their double role. First, actants, such as the Norwegian Accounting Act, perform as elements of the norm system (rules), which when implemented into the new health care setting influence organizational actors. At the end of the first phase (second empirical study), it is the private sector's accounting experts who are in a power position and the Norwegian Accounting Act becomes the central actant on which the national health care accounting norms are based (norm system). Second, actants also act through the information they convey. For example, in the first phase of the implementation process, each of the five translations put forward by the competing actors (the CG and the private sector accounting experts) represent an accounting model based on different accounting methods. The alternative accounting models (and the underlying accounting methods) are actants, which communicate different financial information about the HEs' performance. As such, the actor who eventually comes into a power position (the private sector accounting experts) also controls the type of information conveyed through the financial reports.

In the second phase of the implementation process (the third empirical study), the CG is the formal owner of health care but does not control the process of translating the national health care accounting norms due to the legal entity status of the RHE and the HEs. As such, a specific type of actants is introduced by the CG. These actants, such as a common chart of accounts and IT system, enable the CG to exert control at a distance over organizational members' behaviour and actions by fulfilling the CG's information needs. Furthermore, procedures and rules, which are actants from the norm system, keep developing and become more and more complex in line with the increasing organizational knowledge. As a consequence, these types of actants also influence local actors' behaviours and actions.

Finally, actants from the local and national norm system act on one another creating complex relationships. This is because as the more informal local norms progress and become written procedures (such as a common accounting guideline) they may influence the content of the national health care accounting norms (the legislation such as accounting standards) leading to their further transformation into the new setting (public sector).

### **Black box:**

Throughout the Norwegian health care empirical study, a black box illustrates how power can be secured. Black boxes are sometimes hidden from their potential users (adoption process) or are parts of a construction made up of complicated and intertwined mechanisms (implementation process).

During the adoption process of accrual accounting, the labour party is in a power position to pass the 2002 health care reform since it had acquired the support of major political parties. However, a focus on the accrual accounting innovation could threaten this power position by allowing controversies and delays since the framework had never been introduced into the Norwegian public sector setting. Therefore, accrual accounting is hidden as a black box among other black boxes, which are the HE model and, within the HE model, a new health law, called the Health Enterprise Act, regulating the statuses of the HEs. In the health law, a single article stipulates that the HEs will have to comply with the Norwegian Accounting Act, which is based on the accrual accounting framework (hidden and closed).

During the first phase of the implementation process (second empirical study), the accrual accounting's black box is opened to be implemented into the new context. However, the power struggle between the CG and the private sector's accounting experts prevents its closing leading to a long-lasting process. Each of the five accounting models put forward by the participants is a new black box. The CG's black boxes (three different accounting models) are made up of complicated calculations, since the CG's purpose is to make its argumentation so technically difficult to understand that opponents just accept the CG's view without opening its black boxes. However, the CG's black boxes keep leaking and transforming since they are not accepted by the opponents. Finally, it is the black box of the private sector's accounting experts that is accepted (their accounting model) and closed and by that settling the new national health care accounting norms.

During the second phase of the implementation process (third empirical study), various accounting devices (chart of accounts and IT system) are assimilated to black boxes since they enable the CG to exert power over local actors. The more intertwined and opaque the black boxes are, the stronger their power is. Opaque means that accounting devices are so technically advanced that their users (organizational actors) have only the possibility of following predetermined procedures, which will deliver outputs according to the CG's interests. Regarding accrual accounting, this black box can be temporarily closed, but will be reopened in line with the growing organizational knowledge. However, since local actors control the process, they are able to decide when it will be reopened and at which pace in a never-ending translation process.

The following table summarizes the relationship between the ANT concepts and power during the translation process of accrual accounting into the Norwegian health care setting described above.

<b>Table 2</b> <b>ANT</b> <b>concepts</b>	Adoption process of accrual accounting	Implementation process (national health care accounting norms)	Implementation process (local health care accounting norms)
<b>Translation</b>	No translation (detour)	One verbatim translation of the Norwegian accounting Act (Back and forth movements)	Successive translations more and more detailed (transformations)
<b>Actor- network</b>	Different major political parties	Private sector accounting experts	Local actors (administrative and private sector auditors)
<b>OPP</b>			Local actors (Chief accountant of the RHE and private sector auditors)
<b>Actants</b>	The Health Enterprise model  The Health Enterprise Act	Norm-system (The Norwegian Accounting Act)  Information (financial reports)	Norm system (procedures and rules)  Information (chart of accounts and IT system)
<b>Black boxes</b>	Hidden  (accrual accounting within the Health Enterprise Act)	Reopened and closed  (The Norwegian Accounting Act)	Combined and intertwined (various accounting devices)  Temporarily closed (local accounting norms)

The following section shows the contribution of the thesis to public sector accounting research.

### **Contribution to literature**

The contribution of the thesis is to provide new sources of explanations for the various outcomes of NPM inspired reforms, in particular to accrual accounting's introduction. ANT, which draws attention to the context in which an innovation is introduced, is used as an alternative frame of reference since previous research has already acknowledged the importance of the context in which reforms and accounting changes are enacted (Pettersen et al., 2009; Elwood et al., 2005; Lægreid et al., 2005; Ballantine et al., 1998 Ferlie et al., 1996). In particular, some researchers have focused on the importance of the social context since they view accounting as a social construction (Mellempvik et al., 2005; Bourmistrov et al, 2001; Miller, 2001). It is in this line of research that the ANT methodology has proven its relevance for the thesis, when studying the 2002 Norwegian health care reform, especially accrual accounting's adoption and implementation.

The contribution of the thesis to accounting research in the public sector is threefold.

The first contribution and the thesis's main finding is the relationship between power and outcomes. The importance of power issues is confirmed with previous findings in Scandinavian research about the Norwegian State's way of reforming (Mellempvik et al., 2005, Pettersen, 2005). However, it is the contextuality of power and the role of nonhuman elements in building and maintaining power relations that provides new insight. The thesis findings show how different actors have power at different times and how these power relations are affected by changes in the organizational structure in which they evolve.

Historically, since the recession in the 1920s, the Norwegian State has used a coercive approach, centrally initiated and implemented, creating tensions between the national level (central government) and the local level (local government) (Mellempvik et al., 1998). In particular, the Norwegian norm system in local government accounting has been a result of the hierarchical relations between the central government and the municipalities (Bergervärn, Mellempvik and Olson, 1995). However, even though the implementation of accrual accounting in the Norwegian health care setting perpetuates these tensions, the local norm system is mainly an outcome of local agents. This is mainly due to the organizational change of the 2002 Norwegian health care reform, where hospitals were reorganized into legal entities, HEs, granting them a higher autonomy. Although, the CG has the formal power being the owner of health care, and as such assimilates local actors (hospitals) to agents serving its control needs, it is primarily the local agents' translation about how local accounting norms should be which is acknowledged.

This finding stands out from Scandinavian research (Mellempvik et al. (2005) and from previous empirical accounting ANT studies linking the outcomes of accountability innovations with central agencies' goals (Christensen et al., 2007; Gendron et al., 2007). Furthermore, the thesis' contribution shows that it is only indirectly through the use of accounting devices, described as actants, that the CG maintains a principal - agent structure. This leads to the next contribution.

The second contribution highlights the constitutive role of accounting by drawing attention to the importance of actants in power relations. Previous ANT studies in the public sector have acknowledged the constitutive role of accounting (Skærbæk, 2009; Skærbæk et al., 2007; Gendron et al., 2007; Lowe, 2001; Lowe, 2000; Chua, 1995; Lawrence et al., 1994; Preston et al., 1992). In particular, Skærbæk et al.'s study (2009) highlights the performative role of actants in the construction of a firm corporate strategy, removing them from a more subordinate role. However, researchers have not studied an accounting change process in such a detailed manner, from the adoption to its implementation at different norm levels. Such a longitudinal study enables the visualization of how actants and especially the accounting role vary during the different translation processes. In the adoption process, accounting's role is an absent actant kept outside the political debates, while in the implementation process accounting as an actant performs both through the norm system as well as through the type of information it conveys. An actant (accrual accounting) becomes a focus point around which a new organizational knowledge emerges transforming the

actant itself and the organizational actors involved in its translation as well as “*an organizing rationale around which debates can take place...*” (Miller, 2001, p. 386).

The third contribution is about how the accounting change process is studied. The use of ANT places the focus on a lost tradition of writing accounting stories while helping to visualize the creation of accounting practices and the constitution of new accounting knowledge (Quattrone, 2004; Jones and Dugdale, 2002; Briers et al., 2001; Mouritsen, Larsen and Bukh, 2001; Stone, 2001; Robson, 1992, 1991). More generally, the thesis fills the gap acknowledged by Chua about a better knowledge about the construction of accounting numbers (Chua, 1995). Chua (1995) viewed accounting numbers as the outcomes of human agency where the focus is on the fulfilment of common interests rather than reproducing reality expressed in economic terms. Although local accounting norms are the outcomes of human agency in Essay 4, unlike Chua’s findings, the focus is to visualize reality as accurately as possible of the public sector’s entity expressed in economic terms based on the private sector’s accounting framework.

Recently, Latour defined ANT in the following manner: “*It’s a theory, and a strong one I think, but about how to study things, or rather how **not** to study them - or rather, how to let the actors have some room to express themselves*” (Latour, 2005, page 142). As such, my story, based on three empirical studies, contributes to ANT as a theory since heterogeneous elements, which were previously held separate, are linked together through different associations defined as translations (Latour, 2005).

Eventually, the thesis findings emphasize the ambiguity of the NPM message itself, where macro level actors, such as politicians and central government administrators, place more focus on centralization and resource control than on facilitating local autonomy using a market logic in order to enhance public sector’s efficiency (Læg Reid et al., 2005). This ambiguity reinforces power issues between actors helping to explain the mixed outcomes in NPM experiences during the last two decades.

## **Proposal for future research**

The empirical studies of the thesis focus on the producer side of financial information. A further line of inquiry would have been to explore issues related to the user side. By users, I mean health care leaders, especially the ones with a clinical background, who, I assume, use financial information for decision-making purposes. Therefore, I want to find out how these leaders understand and use financial information: that is how they translate it. Do they use and rely on accrual-based accounting information or more cash-based information?

The aim is to find out if the new type of financial information, generated by the introduction of accrual accounting, such as capital costs is used in decision-making processes or not? Is accrual accounting-based information an important tool (actant) to communicate and achieve one’s own

goals and interests and are organizational members who understand and use accrual accounting more powerful in the organization? In line with the previous public sector ANT accounting studies, it is worth exploring if accrual accounting's implementation transforms public sector organizational member behaviour and identity as they become more "business managers" than health care leaders (Skærbæk, 2009; Skærbæk et al., 2007).

Finally, what are users' beliefs about the increasing use of combined and mandatory accounting devices? Do they feel they miss the freedom to make assessments of their own? Do they often try to bypass systems or procedures? This is also in line with previous accounting research using ANT (Skærbæk, 2009; Skærbæk et al., 2007; Lowe, 2001). As such, can the ANT methodology contribute new insight by following actors (users) in their work context to unravel their actions and reactions to new accountability tools and to the use of sophisticated accounting devices?

## Essay 1: An introduction to Actor Network Theory (ANT) and a review of its use within public sector empirical accounting studies

### **Abstract**

The aim of the essay is to provide answers to the following research question: **How ANT concepts have been used and understood to study accounting change processes and their outcomes in a public sector setting (especially health care) and what is ANT's contribution to these empirical studies?** This is done in two steps. First, the essay provides an introduction to the ANT framework as an alternative approach in accounting research and describes its fundamental concepts. Then, the essay includes a literature review among top-ranked Anglo Saxon accounting journals of previous empirical accounting studies in a public sector setting (especially health care) using the ANT framework. ANT's contribution to accounting change processes can be summarized in four findings. The first finding is that one cannot separate the technical (accounting innovation) from the social in which it is enacted. The second finding is the relationship between the power balance of the actors involved and the change process outcomes. According to ANT, power is contextual and is associated with the notions of control and order. Control and order are illustrated by the ANT concept of black box (control) and the more recent concepts of framing (order) and overflowing (disturbance of order). The framing concept is associated to the concept of Obligatory Point of Passage (OPP), which is also about control. A third finding is the importance of the nonhuman elements, which is illustrated by the ANT concept of translation. During change processes seen as translations, the human elements are linked together with the nonhuman elements (called actants) in constructed associations (networks) in order to achieve specific outcomes. The studies' findings acknowledge the constitutive role of accounting in public sector accounting change processes. However, the role and influence of accounting devices on the outcomes of change processes vary among the twelve studies. The influential role of actants is reinforced by the ANT concept of performativity, described in Skærbæk and Tryggestad (2009). This means that actants not only influence the process outcomes but also help to transform and form the identities and behaviors of organizational members (Skærbæk, 2009; Skærbæk and Thorbjørnsen, 2007; Lowe, 2001 and 2000). The last finding is about the constitution of a new organizational knowledge in the public sector. In all the studies, the issue of expertise is relevant, even though only four studies focus on the role of experts. Central agencies (Christensen and Skærbæk, 2007) or public sector auditors (Skærbæk, 2009; Gendron, Cooper and Townley, 2007 and Skærbæk et al., 2007) become experts as they are appointed to enact NPM reforms through the translation of accountability innovations into the new setting. However, their success or failure is contingent on their abilities to build supporting networks made up of human and nonhuman elements. The translation concept is used to visualize this fact-building process with step-wise movements (and transformations) from one level to another (and maybe back and forth) describing the involvement of actors and actants to support (or reject) the accounting innovation

## Introduction

In over two decades, New Public Management (NPM) has strongly influenced changes in the management of the public sector. NPM's core belief is that the private sector's mechanisms can be successfully applied within a public sector setting in order to increase its efficiency. This core belief has been the prime mover of these changes. Yet, experiences from Anglo Saxon countries such as New Zealand, Australia and Great Britain have shown that importing such mechanisms into a new setting is a complicated process.

Throughout NPM experiences, accounting has played a key role since it is a central input to management control systems. Therefore, it is interesting to look into processes involving changes in the role and content of accounting. A common feature of accounting changes has been a transition from cash accounting (public sector's accounting framework) to accrual accounting (the private sector's accounting framework). However, each accounting change is implemented in a specific context and as such it follows a unique course during which the private sector's accounting model is translated into public sector specificities. The numerous accounting translations from country to country and within countries emphasize the great variety of accrual accounting implementations. This variety encompasses the level (national and/or local), the scope (one and /or several sectors) as well as the translation itself of the accrual accounting framework. One can wonder what the factors that lead to such various outcomes are. Consequently, the exploration of the relationship between the context in which accrual accounting change processes are enacted and the outcomes of such processes within a public sector setting could make a contribution to accounting research.

Finding a relevant theoretical framework to look into such a relationship is therefore a legitimate concern. Within accounting research, many different theoretical approaches have been used to study and explain change processes suggesting "*a lack of theory closure*" (Lye, Perera and Rahman, 2005, p.786). Nevertheless, the authors call for research methods "*that can tease out the dynamics of the process of accounting change within specific contexts*" (Lye et al., 2005, p.786). Actor Network Theory (ANT), which originates in the field of Science and Technologies Studies (STS), could prove to be a suitable framework, even if it has been considered unconventional for management studies (Mc Lean and Hassard, 2004).

Actor Network Theory is referred to as both a *methodology* (Mac Namara, Baxter and Chua, 2004; Scott and Wagner, 2003) and a *theory* (Lee and Sangjo, 2006, p.178). As a methodology, ANT is a tool to structure, describe, and frame events involving human and nonhuman elements contributing to the construction of new knowledge (Scott et al., 2003, Callon, 1986). Bacharach's definition of a theory confirms the difficulty of separating the two concepts "... *a linguistic device used to organize a complex empirical world*" (Bacharach, 1989, p.496). As such, the ANT framework can be used as a methodology to describe complicated change processes or as a theory to analyze and explain the process outcomes as well as combining the two concepts (Scott et al., 2003).



There are three main arguments for the relevance of ANT to the study of accounting change processes. The first argument is related to the study of translation processes, where elements from one setting are imported and introduced into a different setting. As such, ANT is also called translation theory (Baxter and Chua, 2003). For the authors, ANT enables following how “*values of external policy makers are translated into organizationally located management accounting practices; reproducing and fortifying these sources of power anew*” (Baxter et al., 2003, p.104-105). Through the study of networks, ANT helps visualize how a translation process develops by focusing on the interaction, at different levels, of involved actors. ANT shows how actors’ own goals and interests are mediated through the use of technological devices in order to obtain the desired outcomes (Lowe, 2000).

The second argument is related to the study of power. Within ANT, power issues are a central concern. Change processes are described and explained through the power balance between different associations of heterogeneous elements (human and nonhuman) that compete to control the outcomes (Mc lean et al., 2004, Mouritsen, Hansen and Hansen, 2009; Poon, 2009).

The third argument is that ANT highlights the importance of nonhuman elements in change processes and their role in the creation and institutionalization of a new organizational knowledge. This focus has made ANT attractive within many fields including management and organizational studies or studies about information systems and technology (Mc Lean et al., 2004).

With this as a background, the aim of the essay is to provide answers to the following research question: **How ANT concepts have been used and understood to study accounting change processes and their outcomes within a public sector setting (especially health care) and what is ANT’s contribution to these empirical studies?**

This is done in two steps. First, the essay gives an introduction on the ANT framework as an alternative approach, within accounting research, and describes its fundamental concepts. Then the essay includes a literature review among top ranked Anglo Saxon accounting journals of previous empirical accounting studies within a public sector setting (especially health care) using the ANT framework. As a conclusion, the essay summarizes the main issues ANT focuses on to provide explanations for accounting change process outcomes and the key ANT concepts to describe and analyze such issues.

## An introduction to Actor Network Theory (ANT) and its fundamental concepts

In the last twenty years, the use of Actor Network Theory (or ANT) has expanded from studies within Science Technology and Society (STS) to many different fields (Mc lean et al., 2004). ANT is mainly associated with the works of Latour and Callon even if Lowe argues that it is Law (1997) who came up with the term (Lowe, 2001). For Latour, ANT originates “*with a need for a new social theory adjusted to science and technology studies*” placing the focus on the importance of the role played by nonhuman elements in these types of studies (Latour, 2005, p.10).

In the last decade, the three theory’s contributors have been contesting “ANT” denomination and some of its developments, acknowledging the fact that the theory (or methodology) is difficult to define, and as such, subject to misunderstanding and abuses (Callon, 1999; Latour, 1999; Law, 1999, 1997). As Latour humorously puts it: “...*the four difficulties of actor–network theory, that is the words “actor”, “network” and “theory”- without forgetting the hyphen*” (Latour, 1999, p.15). More recently, Latour points out that ANT is merely the original denomination, which is experienced as puzzling and strange and as such, should be kept (Latour, 2005).

A possible explanation to ANT’s misuse is that it has been “translated” by its numerous users into a heterogeneous framework that has drifted away from the original intentions of its co-authors due to its “oversimplification”. The task of explaining ANT is risky and complicated and many researchers who used (and misused) it apparently got “lost in translation”. This is because ANT is in a state of a constant change and can be “*characterized by an antipathy to self definition*” (Lee and Hassard, 1999, p. 391-392). For Latour, it comes directly from the characteristics of the framework itself: “*From the very beginning, ANT has been sliding in a sort of race to overcome its limits and to drop from the list of its methodological terms any which would make it impossible for new actors (actants in fact) to define the world in their own terms, using their own dimensions and touchstones*” (Latour, 1999, p. 20). ANT’s ambiguity or flexibility has been the key to its diffusion from its origins within STS to numerous fields spreading from anthropology and sociology to politics, geography, accounting or economics.

Therefore, the purpose of this part is not to give a chronological and exhaustive section about ANT’s framework. It is more an introduction to ANT and some of its main concepts that were defined by its contributors. As such, the definitions of the concepts mainly refer to their meaning as explained by Callon, Latour or Law while Part Four shows how ANT concepts are understood and translated as they are used in the empirical accounting studies selected within public sector.

By describing the ANT framework and its main concepts, the aim is to find out if such an alternative framework can contribute to accounting research since its use and popularity are increasing. In particular, ANT’s potential contribution is targeted towards studying accounting change processes,

triggered by the NPM reform trend, and enacted within a public sector setting and especially health care.

## **Fundamental concepts**

The following concepts are considered as the cornerstones of the ANT framework (Latour, 2005; Callon, 2001; 1995; Latour, 1988 a) and b); Strum and Latour, 1987; Callon 1986; Latour, 1986; Law, 1986; Latour, 1985; Callon and Latour, 1981; Callon, 1981).

- Translation and its phases; actors; actants (and inscriptions); obligatory point of passage (OPP) and the principle of symmetry
- Actor-network; network
- Black box
- Framing, Reframing and Overflowing
- Boundary Objects

### **Translation and its phases; actors; actants (and inscriptions); the principle of symmetry and the concept of Obligatory Point of Passage**

#### **Translation**

In 1986, Callon called “*the sociology of translation*” a new approach to the study of power (Callon, 1986, p.196). The “*translation model*”, as Latour calls it, sees power as something contextual, which is obtained as heterogeneous associations of people and devices are mobilized during a change process that will fulfill everyone’s plan (Latour, 1986, p.264). A year later, the sociology of translation became Actor Network Theory (ANT) with the introduction of the notion of the actor-network (Callon, 1987).

The concept of translation is therefore associated with the original works of Callon (1986) and Latour (1986). According to Latour, translation has a dual aspect of slow movement and gradual transformation enabling new connections, which will to some extent, change several “*elements or agents*” (Latour, 1994, p.32). As such, translation is more than a neutral linguistic tool communicating the same message in another language; it is a transformation bringing heterogeneous elements together to achieve specific aims. Translation is a displacement where human and nonhuman elements act together, influencing each other in temporary alliances and by that becoming transformed (Latour, 1991, Latour, 1986). The notion of transformation implies a process where an entity that desires to initiate change, gradually tries to channel other actors’ interests through successive displacements making them allies to the cause and by that growing powerful enough to control the process outcomes.

Within the sociology of translation, the denomination of actor encompasses both human and nonhuman elements. The concept of actor emphasizes the fact that every participant is actively contributing to shape the outcomes of the transformation process based on their own scheme (Latour, 1986). It is not accidental that the term, actor, comes from the stage as it reflects: “*a complete dislocation of the action, warning us that it is not a coherent, controlled...affair...Action is borrowed, distributed ...influenced..., translated*” (Latour, 2005, p.46). As such, the term has connotations with power and machinations as actors evolving in a social context are competing with other forces (human, nonhuman) that will attempt to influence their actions, define their roles or shape their identities during a translation process (Latour, 1986).

The term “*actant*”, borrowed from semiotics, is often used to describe nonhuman elements (Latour, 1994, p.33; Latour, 1991, p.122). Latour defines an actant as: “*that is, something that acts or to which activity is granted by others.... An actant can literally be anything provided it is granted to be the source of an action*” (Latour, 1996, p 373). Like the actor concept, this broad definition helps to wipe out the distinction between human and nonhuman elements as the latest are also granted the ability to influence others’ behavior through their own actions. “*Texts of all sorts, machines or other physical objects, and people...*” are examples of what actants can be (Law, 1986, p.255). However, Law used the denomination “*...raw materials...*” to describe actants since for him these various elements, when linked together, enable an actor “*to control others at a distance*” (Law, 1986, p.255).

Furthermore, the term inscription, often used within ANT, is derived from the concept of actant. Inscriptions can be understood as a specific category of actants made of written features, which will facilitate action and control at a distance (Law, 1986).

### **The phases of translation and the concept of Obligatory Point of Passage (OPP)**

The translation process can be divided into four phases: problematization, interessement, enrolment and mobilization. During these phases, human identity, characterized by Callon as variable and changing, is continuously shaped and transformed in interaction with other actors (Callon, 1998, 1986).

The first phase of translation (called *problematization*) is a dynamic phase, where alliances have to be made, negotiations carried through since each involved actor (or group of actors), although willing to be a part of the network, has his (their) own goal to achieve (Callon, 1986, Latour, 1983).

During this phase an actor (group of actors) fights to impose his (their) respective view(s) about: the problem to solve, the technical issues to focus on, as well as defining the environment to take into account. At the same time, the actor (or group of actors) chooses other actors to become involved with the problem and its solution, defining their roles and identities. The problematization phase is about establishing the identities of actors in relation to each other and creating boundaries for their

interactions so that the choices regarding alternative routes to solve the problem at hand are narrowed. The boundaries created are meant to reduce the scope of the challenge, by determining what is important or not in the problematization, forming "...a closed domain with its own coherence and logic..." (Callon, 1980, p.206). The concept of obligatory point of passage (OPP) is closely related with the problematization phase (Callon, 1986). OPP can be defined as a channel through which one has to pass in order to solve a problem. This channel can be human (like a group of actors), nonhuman or a combination of the two. The channeling device (OPP) can take various shapes. If it is non human, it can be a physical location such as a laboratory for Pasteur (Latour, 1983) or an inscription such as a research program (Callon, 1986).

According to Callon (1986) the second phase of the translation (*interessement*) is about stabilizing the identities of the involved actors, which were defined in the previous phase. The *interessement* phase deals with targeting individuals or groups as prospective followers of the transmission of the ideas of an actor (or group of actors). This phase is an important phase as the constituted network of involved actors includes human elements, which can accept or refuse the given roles. Different strategies may be used to keep the involved actors interested. For example, alternative choices or exits can be blocked by the main actor, isolating the actors and as a consequence maintaining them in the network (Callon, 1986, Latour, 1983). However, the main actor does not need to convince all the actors, only the representative ones (Callon, 1986). In the *interessement* phase, various tools are used to secure its success. These tools can be of a physical substance, such as objects or texts, or without a physical substance such as conversations or meetings. *Interessement* builds on a system of alliances, while interrupting competing ones. For Callon, the *interessement* phase creates new social structures intertwining social and natural entities that are consolidated together (Callon, 1986).

The third phase (*enrolment*) is about securing the participation of interested actors in order to stabilize the constituted network. The stabilization within the network is achieved since the actors are interrelated to one another and accept the defined roles (Callon, 1986). To succeed with the enrolment, various measures are taken such as "*multilateral negotiations, trials of strength and tricks*" as well as the introduction of nonhuman elements, defined as various devices (Callon, 1986, p.208). To summarize the enrolment phase, it is about anchoring the definition and the allocation of the roles within the network.

The fourth and final phase (*mobilization*) is about transforming actors' participation to active support and confirming that the representative actors ("*spokesmen*") from the concerned groups were actually given this role by the groups' members (Callon, 1986, p.214). This is crucial as the relationships built within the network are based on the selected actors: "*Will the masses follow their representatives?*" (Callon, 1986, p.214). The concept of mobilization summarizes the necessary displacements to ensure the representativeness of involved actors and to enable gathering them together at a specific time and place (Callon, 1986). However, it is not sufficient that enrolled people give their active support; they also have to accept the system (the innovation) since this is in order to

stabilize the construction and secure the outcomes of the change process. Therefore, continuous maintenance of the network is needed (Latour, 1991).

According to Callon, the four phases of translation can overlap as these may need several detours and additional argumentations over a long time period before all the participating actors accept the definition of their identities as well as the role they are assigned to play in the process (Callon, 1986).

### **The principle of symmetry within ANT**

From the above definition of an actant, one can derive the principle of symmetry, which is central to ANT and has been subject to polemics (see Mc Lean et al., 2004). The principle of symmetry underlines the important role of nonhuman elements within socio-technical studies (Law, 1992). Moreover, the constitutive role of nonhuman elements is emphasized in the construction of collectives as well as their very close connections with human elements (Latour, 1993).

The principle of symmetry means that one does: *“not make any assumption about the social or natural origin of entities”* (Callon and Latour, 1992, p.348). Therefore when describing human or nonhuman elements, one should not have any a priori assumptions and use the same vocabulary. However, after numerous criticisms (Chua, 1995; Mc Lean et al., 2004), Latour has lately stated that the principle does not imply a total symmetry between the two but rather an enrichment of the role played by nonhuman elements compared to the more restricted ones to which they are assigned in traditional social sciences studies (Latour, 2005).

There exist two other principles (agnosticism and free association) underlining that the researcher must not censor the actors or consider separately the natural and the social (Callon, 1987). These principles constrain the research design of an ANT study to focus on an open mind during the data collection process in order to grasp the whole context.

### **Actor-network; network**

The actor-network concept describes the relationships between human and nonhuman elements within (a) constructed network(s) leading towards a specific purpose such as a radical change (Callon, 1987). A technological innovation is an example of a radical change. According to Actor Network Theory, the success of an innovation is linked not only to its technical specifications but also to its implementation context being the sociological factors in which the innovation is introduced. Therefore ANT sets focus on visualizing the heterogeneous associations of natural and social elements as well as helping to describe the mechanisms of their transformation that will lead to specific outcomes (Callon, 1987). The entities (natural and social elements) that compose these associations can continuously modify and reshape their identity and relations with one another and introduce new elements within the constructed network (Callon, 1987). For that reason, the outcomes of a translation are not predictable in advance since nature, science, and society are intertwined in the process.

Latour associated network to movement, yet focused on successive changes of state (translation) during this movement as opposed to today's notion of network, which connects without transforming (Latour, 1999). Furthermore, according to Latour, ANT was originally a way to remediate the traditional dichotomy within the social sciences between the micro and macro levels, agency and structure, and going beyond these issues by showing that "*the social possesses the bizarre property of not being made of agency and structure at all, but rather of being a circulating entity*" (Latour, 1999, p.17). This means that network can be associated to the, "*summing up of interactions through various kinds of devices, inscriptions, forms and formulae, into a very local...very tiny locus*" channeling a change process towards specific outcomes (Latour, 1999, p.17). For Law, actor-network is about a movement, a displacement (ergo a translation): "*the struggle to centre and the struggle to centre and order from a centre*", which involves a tension between the main actor and the "*decentred network*" (Law, 1999, p.5). This means that this concept is also linked with power and control at a distance (Law, 1986). As such, a network can be assimilated into a structure that gathers and conveys heterogeneous elements, which enable the translation of the context to achieve a specific aim.

Another aspect related to the concept of network is that networks create their own spatiality. This explains why ANT is said to erase the traditional notion of space. As Law puts it, "*the notion of 'network' is itself an alternative topological system*" since it is the relationships formed between and by entities that determines their position within the network (Law, 1999, p.6).

Recently, Latour summarized network as "*a tool to describe something, not what is being described*" (Latour, 2005, p.131-132). As such, the actor-network concept is a broad concept. It stretches beyond the physical form of a network as long as one manages to capture the movements, actions and successive transformations generated by actors (Latour, 2005).

Regarding the notion of actors, ANT is a methodology designed to follow actors, understand their actions and learn from them "*without imposing on them an a priori definition of their world-building capacities*" (Latour, 1999, p.19-20). As a consequence, specific research methods such as ethnographic studies are chosen to be able to closely follow actors (human or nonhumans) within their context, mixing what is defined as social with what is defined as science. As Latour puts it: "*...The acronym ANT was perfectly fit for a blind, myopic..., trail-sniffing, and collective traveller. An ant writing for other ants, this fits my project very well*" (Latour, 2005, p.9). As described above, actor and network are not two different parts (agency and society) but closely interrelated elements where the social is just seen as a "*certain type of circulation*", where circulating entities are simply linked together in particular associations (networks) that may lead to changes (Latour, 1999, p.19).

If one shifts the focus from the concept of actor-network to the entities within the networks, Law argued that some claims can be made about these entities that help to better understand what ANT is

about (Law, 1999). The first claim sees ANT as a “*ruthless application of semiotics*” (Law, 1999, p.3). This means that entities are defined and act only in relation with other entities. According to Law, these entities do not have any specific characteristics, which suggest that they can take the shape of human, nonhuman, agency and structure or materiality and sociality (Law, 1999). The second claim relates to the notion of “performativity”, which is a development of the first claim. Not only are entities shaped as an outcome of the relations in which they are situated but they are also “*performed in, by, and through those relations*” (Law, 1999, p.4). This specificity makes ANT appealing to the study of change processes. According to ANT, the outcomes of a change process are often unexpected because of the unique and changing relationships built during the process between the entities involved and such outcomes are never given in advance, never predictable.

### **The concept of Black box**

A black box can be defined as: “*a closed file, an indisputable assertion*” (Latour, 1987, p.23). For example, the successful diffusion of a technological innovation across time and space, will transform the innovation from a simple claim to “... *a routine black box in everyone's hands*” (Latour, 1987, p. 120). It means that the innovation will be taken for granted by its users, leading them further on to the next level, such as new fields of application (Latour, 1987).

The concept of black box is important to the stabilization of a translation process not only as an outcome of the process, where an innovation is ultimately accepted by its potential users as something useful and valuable, but also during the different phases of the translation, where a black box can be used as a device to interest, enroll and convince actors to be a part of the network. Black boxes may help stabilize a construction either by combining several of them or by putting many elements within the same black box, making them a part of an apparently strong construction (Callon and Latour, 1981). By their inner logic and functioning, black boxes enlist actors by preventing further questioning and controversies. The elements that are black boxed become a part of the rhetoric leading to the desired outcome.

Furthermore, if black boxing fails at a certain stage of a translation process, it may lead to controversies (Latour, 1987), as black boxing is “...*a process that makes the joint production of actors and artifacts entirely opaque*” (Latour, 1994, p.36). This is this opacity that prevents resistance. As such, black boxing is associated with domination and power (Latour, 1991).

### **Framing, reframing and overflowing**

In the last decade, Callon (1998) borrowed terms, such as performativity or externality, from the economic field that he had enriched with insights from the sociological field. For over a decade, economics has been his particular field of interest (Muniesa, Millo and Callon, 2007, Callon and Muniesa, 2003; Callon, 1999). Poon defined his work as a part of: “*a research movement towards an anthropology of markets*” (Poon, 2009, p.9).



Within the economic field, Callon focused on the analysis of markets, their dynamics, the factors influencing market transactions and efficiency as well as the behavior of actors and devices within economical settings. As a consequence of his work on markets, and especially the search for equilibrium, he introduced within ANT a new fundamental concept of framing. However, the concept was derived from Goffman's concept of frame and is not a concept used by economists (Goffman, 1971). This new concept brings an additional depth to previous ANT works on translation.

Framing is an important part of the problematization phase. It is about deciding which elements to take into account to solve a problem or a situation, and which elements to leave out as irrelevant. Callon used the framing concept to emphasize the role of nonhuman elements in the creation of tacit boundaries (frame) that limit the interactions of participating actors in a given situation (Callon, 1998). These boundaries can either be physical such as theatre props or more immaterial such as organizational devices.

Associated with the framing concept is the notion of “overflows” or “overflowing”. Overflows are associated with a framing failure as the framing's boundaries are challenged by the outside world as well as the participating actors. This means that new elements, previously left outside the translation, have to be taken into account before further action is done. Framing and overflowing were closely intertwined since for Callon: “*overflows are the rule and framing is a fragile, artificial result based upon substantial investments*” (Callon, 1998, p.252). The two concepts emphasize the dynamic aspect of a translation process, where “... *the constant reconfiguration of the network of interactions...*” influence actors' goals and identities (Callon, 1998, p.253).

Framing is assimilated into order as it aims to control a process towards a specific direction by limiting interactions within the established networks of associations. On the other hand, overflows are “disorder” created either by participating actors or nonhuman elements that enable new connections with the outside world (a broader context). The overflows have to be either integrated into the process by a new framing attempt or rejected by a convincing rhetoric or appropriate devices.

### **The concept of Boundary Object**

The concept of boundary object, though its definition originates from the work of Leigh Star and Griesemer (1989), is included in this introduction as it is often used in the ANT terminology. A boundary object is defined as: “...*an analytic concept of those scientific objects which both inhabit several intersecting social worlds and satisfy the informational requirements of each of them*” (Leigh Star et al., 1989, p.393). Such objects can be nonfigurative or tangible such as a research program, texts, maps or even the State of California. Yet, they all fulfill double functions as they answer to general constraints from various users while adapting to local needs.

Callon (1999) associated the concept of boundary object to the concepts of framing and overflows. According to Callon, in order to achieve a framing attempt and stabilize a process, one needs to gather together elements, which he defined as boundary objects (Callon, 1999). Boundary objects are assimilated into anchor points across different actor worlds that enable temporary connections between these worlds based on flexible features that the different worlds can relate to and understand within their own rationale. Nonhuman elements involved in a framing attempt assume a double role (Callon, 1998). They are resources that support the framing attempt as well as intermediaries with the outside world. As intermediaries (boundary objects) they allow overflows as they give access to the outside world (s).

## Summary

The purpose of this section has been to give a short introduction to ANT and some of its main concepts as defined by ANT's contributors (Callon, Latour and Law). The introduction part is mainly based on earlier ANT publications (1981-1988), since these works are considered fundamental to the understanding and further development of ANT. It is within this time period from which most of the ANT concepts originate. Latour himself (2005) referred to three fundamental texts as the starting point of ANT (Latour, 1988; Callon, Law and Rip, 1986).

ANT can be summarized in the following manner: “...ANT is ontologically relativist in that it allows that the world may be organized in many different ways, but also empirically realist in that it finds no insurmountable difficulty in producing descriptions of organizational processes” (Lee et al., 1999, p.392). As a consequence, within the accounting field ANT has been used as a methodology to study organizational processes, in particular change processes, where accounting plays a central role. What is appealing about ANT is its capability of linking these process outcomes to a broad context, which erodes the notions of macro and micro levels. This enables it to provide new sources of explanations to change processes such as the constitution of actor-networks that interact and influence the involved actors, which may sometimes lead to unexpected outcomes. This capability has contributed to ANT's recent success within the accounting field.

The next section describes the methodology used to select empirical accounting studies within a public setting using ANT.

## Methodology of the literature review

The aim of the literature review is to find out how ANT concepts are used and understood and if ANT fulfils its purpose of helping to describe and analyze accounting change processes and their outcomes. The literature review focuses on ANT empirical accounting studies, within the public sector, especially health care. This is because the health care sector has proved to be the favorite sector for NPM reforms with its increasing expense rate and potential for management

improvements. There is a need for more research on how accounting change processes are initiated and carried out since NPM experience, where the health care sector has been the favorite playground, has shown wide variations in their outcomes that still lack explanations.

The literature review is concentrated on top ranked Anglo Saxon accounting journals since Anglo Saxon countries have been foremost in introducing NPM inspired reforms where accounting changes have been implemented. The review leaves out published articles from journals outside the accounting field or accounting journals with a lower ranking than the journals selected as well as books (or books chapters), unpublished essays such as conference papers, and doctoral theses.

### **Classification scheme**

There exist different strategies to carry out a literature review (Mellemvik, Gårseth-Nesbakk and Olson, 2005; Van Helden, 2005; Ryan, Scapens and Theobald, 2002; Scapens & Bromwich, 2001; Shields, 1997). However, since the theoretical framework was chosen in advance (ANT) as well as the setting (public sector), previous classification schemes did not fit the purpose of this review. Therefore, the literature review uses a classification scheme of its own based on an inductive approach.

### **Selection of reviewed journals**

Fourteen top-ranked accounting journals were selected, primarily based on the United Kingdom Aston Business School's "journal league" list. Since this list is one of many available ranking lists from academia, a comparison was made with another list to confirm the validity of the selection. The other list was from the United Kingdom "Association of Business Schools" (ABS), a body for "*all the leading business schools of UK universities, higher education institutions and independent management colleges*" ([www.the-abs.org.uk/index.php](http://www.the-abs.org.uk/index.php)).

From the first list (Aston Business School ranking list) only journals with the highest ranking (3\*) and categorized under the field "Finance and Accounting" (F&A) were selected. The 3\* ranking includes journals ranked as "*world leading*" on the basis of "*citation rates, impact factors, interrogation of data bases and the evaluations of senior academic staff in Aston Business School and other international business schools*" (Aston Business School, journal league tables, 2006). From the second list (ABS ranking list) only journals with a ranking of 3 and 4 and within the field of accounting were included in the selection.

A comparison between the two lists resulted in a selection of 13 accounting journals. However, one journal ("Review of Accounting Studies") was added to the selection, even though it was not listed in the first list. This is because this journal was one of the few accounting journals with the highest ranking (4) in the second list (ABS). As a result, the number of top ranked accounting journals in the selection was 14. For details about the selection process, see Tables 1 & 2 (Appendix).

Finally, in order to strengthen the relevance of the selection process, a triangulation of the results was done with the results from a similar review (Mellemvik et al., 2005). Even though Mellemvik et al. 2005's review had a different selection process, 12 of the 14 top ranked accounting journals selected are common. This confirms the relevance of the selected top ranked accounting journals. Since the authors focused on reviewing articles about public sector accounting written by Nordic scholars and published in European journals, the "Review of Accounting Studies", which is a North American publication, and "Behavioural Research in Accounting", which is a Canadian publication, were not included in their selection. As a conclusion, the scope of the literature review with 14 top ranked accounting journals is quite similar with the Mellemvik et al. (2005) review (18), yet broader than for example Van Helden (5), Scapens & Bromwich (1) or Shields (6).

### **Search of articles within the selected accounting journals**

In this section, articles, within the above-mentioned 14 top ranked accounting journals were selected based on the three following criteria:

- ANT as the theoretical framework.
- A case study design since ANT focuses on the actors and the importance of the context in which change processes are enacted.
- Public sector and health care, in particular health care as the setting for the case study

### **Selection through four databases**

The access to the selected journals was done through four different databases:

1. Through Elsevier Science Direct database the following five journals are available:
  - Accounting, Organizations and Society (AOS), Critical Perspectives on Accounting (CPA); Journal of Accounting and Economics (JAE); Management Accounting Research (MAR) and Journal of Accounting and Public Policy (JAPP).
2. Through EBSCO database the following six journals are available:
  - Accounting and Business Research (ABR); Behavioral Research in Accounting (BRA); Financial Accountability and Management (FAM); Journal of Accounting, Auditing and Finance (JAAF); Journal of Accounting Literature (JAL) and Journal of Accounting Research (JAR)
3. Through Proquest database the following two journals are available:
  - Accounting, Auditing & Accountability (AAA) and the Accounting Review (AR)
4. Through Springer link database the last journal (Review of Accounting studies) is accessible.

### **Search for articles using ANT, based on case studies within a public sector setting**

The selection of articles within the 14 journals selected was done by searching with the key words "Actor network" in the category ("All fields"). Brackets were added in front of the key words to

exclude articles using only the term actor and/or the term network. I used the key words “*Actor Network*” instead of “*Actor Network Theory*” in order to include all relevant articles, not only the ones focusing on the theory as such. The search provided a total of 91 articles. However, 23 articles were removed from the total since they do not use ANT as a theoretical framework. Though some authors mentioned Actor Network Theory (ANT), they only referred to other researchers who used ANT, without using ANT themselves in their articles. Other authors mentioned ANT in their articles, but only to position ANT within a research trend (for example post-structuralism) or as a comment about different theories, without using ANT in their studies. Finally, there were some articles in the database selection that used only one of the two concepts (actor or network) without referring to any work of the three founders of ANT (Callon, Latour or Law). The selection was then reduced to 68 articles. Moreover, 30 articles were removed from the 68 since the articles did not fit the empirical studies’ criteria (for example theoretical contribution or historical study).

Among the 38 remaining articles, 27 empirical studies were excluded from the selection because the setting was the private sector. The selection was thus reduced to eleven articles. However, the final selection for the literature review includes twelve articles. The twelfth article (Preston, Cooper and Coombs, 1992) was not included in the database search, even if it was published in one of the accounting journals selected. Although the authors used Latour’s framework and well-known ANT concepts (translation and black boxes) they did not refer explicitly to the methodological framework as “Actor Network Theory” or “Actor Network”.

I decided to include the twelfth article in the literature review for three reasons. The first reason is that this empirical study is very relevant for my review as it takes place within a NPM context of reforming. The study deals with the implementation of management control systems within the public sector (and health care). The second reason is that the article has been quoted and discussed by the authors of the other articles in my review such as Lowe (2000) or Chua (1995). The third reason is that the authors use Latour’s framework according to the purpose of the review, which is to find explanations for the outcomes of radical accounting changes (success or failure).

In summary, twelve articles were selected. These are empirical studies within the public sector, in particular health care (five studies). Table 3 (Appendix) presents an overview of the twelve articles including the name of the journal, the respective authors, the year of the publication, the topic, the research method and the public sector.

## Reviewing twelve empirical accounting studies within the public sector using ANT

The ANT introduction presented the fundamental concepts within the ANT framework. The use of these concepts creates a frame of reference for the classification of the selected empirical accounting studies from the 14 top-ranked Anglo Saxon accounting journals. However, the description of the

twelve empirical accounting studies is structured according to two other dimensions. The first dimension shows the focus of the empirical studies (such as performance measurement, strategy or reporting practices) in order to visualize if there is a trend within ANT studies and if the trend can be linked with NPM reform experiments. The second dimension classifies the empirical studies according to the part of the public sector (such as health care) in which the studies take place. This is because the ANT framework links the specific context in which change processes are enacted with their outcomes. Finally, each empirical study is reviewed by showing how the ANT concepts, described in Section 3, are used and “translated”. Table 4 (Appendix) gives an overview of the twelve empirical accounting studies and their classification.

With regard to the level of analysis, four of the studies are at the national level (Skærbæk, 2009; Skærbæk et al. 2007; Cuganesan, Boedker and Guthrie, 2007; Preston et al., 1992), one is at the regional level (Gendron et al., 2007), four are at the entity level (Skærbæk et al., 2009; Skærbæk and Melander, 2004; Lowe, 2001; Lowe, 2000; Chua, 1995; Lawrence, Manzurul and Lowe, 1994) while one is both at the national and local levels (Christensen et al, 2007).

## **Performance measurement**

There are eight studies dealing with the introduction of performance measurement mechanisms within a public sector setting. The first three studies deal with the mediating role of public sector’s auditors as they make operational NPM reforms: the first two are within the Danish Defense Department (Skærbæk, 2009; Skærbæk et al., 2007), and the last one takes place within the Canadian County administration of Alberta (Gendron et al., 2007). The remaining five are all within Anglo Saxon health care (Lowe, 2001; Lowe, 2000; Chua, 1995; Lawrence et al., 1994; Preston et al., 1992).

### **Danish Defense**

Within the Danish Defense Department, the two studies deal with the implementation of new accounting systems in order to improve performance measurement. Central government auditors play a central role in the implementation of these systems, which are based on the private sector’s accountability model and focus on output measurement.

### **Translation and phases of translation**

The first study (Skærbæk, 2009) dealt with the role of central government auditors (audit office) in the implementation of a new costing system. For the author, the notions of maneuverability and identity are key elements within a translation process. Moreover, he introduced the notion of purification (Latour, 1993) in relation to the translation process to illustrate how auditors place themselves as experts who exercise a normative judgment on how things should be done and in the power of their alleged expertise, pose as representative spokesmen.

To carry out the project successfully, the audit office imposes on other actors specific roles (and identities) alternating between two roles (or identities) such as “*independent auditor*” or “*modernizer*” as compromises and negotiations take place (Skærbæk, 2009, p.2). The study showcases the constitutive power of associations of actors and illustrates the fact that power and the identities of actors are not only contingent on the construction of specific relations within specific networks but also on the maintenance of such relations (Skærbæk, 2009).

Furthermore, ANT enables us to visualize how public auditors heavily rely on nonhuman elements such as diverse accounting devices and audit technologies that become, during the translation, fundamental parts in the interactions between actors as well as in their reconfigurations. Yet, these devices need continuous adjustments to offset potential obstacles during the different phases of the implementation process. Findings underline the double effects of a translation process such as the ones who translate (auditors) not only trying to transform others but becoming transformed as well.

More generally, the study draws attention to the role of central government auditors as facilitators of NPM reforms controlling the implementation of new accountability mechanisms. It also focuses on the auditors’ relationship with policy making in light of their new expertise.

The second study (Skærbæk et al., 2007) also deals with the role of public sector auditors (National Audit Office of Denmark) in the implementation of a NPM-inspired performance measurement framework. The translation concept is used to unravel the complexity of the interactions involving human and nonhuman elements during the implementation of an IT-based accounting system, assessing performance through output measurement. In particular, the translation concept illustrates how Danish officers’ identities are transformed during the process, not only through social relations and interactions, but also through the use of nonhuman elements such as ERP systems or career planning systems (Skærbæk et al., 2007).

Translation visualizes the dynamic of the process as the change towards output measurement destabilized Danish officers’ identities leading to a new mixed identity something between “*warrior*” and “*manager*” (Skærbæk et al., 2007, p.264). For the authors, the translation concept emphasizes not only the unpredictability of change processes due to varying contextual factors, but also the difficulty of stabilizing the outcomes. Nonetheless, the authors pointed out the crucial role of substantial investments in nonhuman devices to stabilize, even though temporarily, such processes.

### **Framing and Overflowing**

For Skærbæk (2009), Callon’s newer concepts of framing and overflowing (Callon, 1998) are an integral part of the translation processes. These concepts enable the exploration of the dynamic and

the fragility of institutionalizing change. In his study, the calculative agency, which is the entity responsible of the original framing attempt, has to restrain overflows in order to maintain control over the process. In other words, overflows are the theorization of “*troubles*” and disturbance during a translation process (Skærbæk, 2009, p.15). Furthermore, he compares “*overflows*” to “*obstacles*” as they are not only accidental events generated during a framing phase but also the more deliberate actions (such as political actions) of concerned groups wanting to be an active part of the problem in order to interfere with the process (Skærbæk, 2009, p.4).

Skærbæk (2009) argued that framing is an integral part of the four phases of the translation as he means that one can only find out in retrospect by studying the outcomes which framing has succeeded. Regarding overflowing, Skærbæk primarily relates the notion to achieving enrolment and ensuring the mobilization of representatives (2009).

### **Obligatory Point of Passage (OPP)**

In both studies, the concept of OPP is associated with nonhuman elements. The nonhuman elements can take various shapes such as: ERP systems, the configuration of a career planning scheme, a project, an accounting principle or even threats of dismissal (Skærbæk, 2009; Skærbæk et al., 2007). In Skærbæk’s study (2009), OPP was used to frame the whole implementation project within a specific path, while OPP had a more restricted role in the Skærbæk et al. study (2007). In this study, OPP are constraining devices shaped and introduced to force and frame the officers’ identities into new manager roles (Skærbæk et al., 2007).

## **Alberta province**

### **Translation**

In the third study (Gendron et al., 2007), the Auditing Office of the Canadian province of Alberta enters a new field of expertise within performance measurement playing a central role in the introduction of new accountability mechanisms, inspired by NPM reforms.

Using the translation concept, the study shows the legitimatization process of the new expertise through the adoption of inscriptions from expert groups (accountants and auditors) from other jurisdictions. The authors’ associate translation with an ongoing process in which claims, such as auditors’ expertise, are transformed into accepted facts through the construction of a network of support made up of human and nonhuman elements (inscriptions). They define the process as: “...“*fact*” *building between the local and other, more remote, practices and discourses*” (Gendron et al., 2007, p. 103).

Moreover, translation also illustrates the transformation of the auditors as they gain their expertise and have to legitimize it. Translation is used to describe the construction of a supporting network of



accounting and auditor experts who needed to establish their credibility to their office employees, since they were not convinced in the beginning of their own capacities to successfully achieve such a radical implementation. The translation process towards the legitimization of expertise is associated with the fabrication of nonhuman elements such as “*mechanisms of inscription (e.g., standards, measures, guidelines)*”, which are tested and reciprocally validated through the national and international epistemic community of auditors (Gendron et al., 2007, p115).

Translation terminology such as “*anchoring*” is used to show how the legitimization of expertise progresses through other expert groups, across space, as well as through the politicians and media. According to the translation concept, time and space are erased as the office auditors’ expertise becomes universal and by that, weakening the potential resistance of opponents. Potential competitors such as program evaluators (government managers) do not have a similar worldwide network that will validate their practices and give credibility to their expertise (Gendron et al., 2007).

However, the authors emphasize the instability of a translation process since the success of the construction is based on the incapability of competitors to build a similar type of supporting network. Translation is associated to a political process since the institutionalization of the auditors’ new expertise is threatened because the auditors’ self-declared independent status is being questioned by the authors. For them, the auditors are a part of the policy making process due to their active role in defining and implementing policy (Gendron et al., 2007, p.126-127).

### **Obligatory Point of Passage (OPP)**

In Gendron et al. (2007), OPP is associated with a nonhuman element (the new performance measurement’s framework of accountability) that is viewed as the solution to improve the financial situation of Alberta’s province.

### **Anglo Saxon health care**

#### **Translation**

There are five studies within the Anglo Saxon health care sector (Great Britain, Australia and New Zealand). They all deal with the introduction of new performance measurement systems imported from the private sector and inspired by the NPM ideology (Lowe, 2001; Lowe, 2000; Chua, 1995; Lawrence et al., 1994; Preston et al., 1992).

The first study (Preston et al., 1992), deals with introducing new systems of accounting and budgeting within the British National Health Service (NHS). In particular, the study is about the implementation of a new budgeting system, which provides accounting and clinical data to managers and clinicians in order to improve the management of hospitals.

The authors use the concepts of fabrication and translation to describe the implementation process. Fabrication, instead of construction, emphasizes the role of human agency (focus on discourse and rhetoric) and all the maneuvers between the involved groups (or persons) in order to influence the outcomes of such a change process. Moreover, fabrication draws attention to the fragility of these outcomes and the need for continuous investments to secure the institutionalization of the new system.

The study follows the fabrication of accounting and budgeting systems at the regional and local levels, seen as a translation process, and analyses the conditions leading to the success or failure of implementing such systems. The focus of the study is on new accountability tools, imported from the private sector, and recommended in a national report as a means to control the management and resource allocation within health care at a distance (Preston et al., 1992).

The sociology of translation enables the authors to explore how accounting innovations are transformed within an organizational setting towards either their institutionalization or rejection (Preston et al., 1992). They described specific tactics put forward by Latour (1987) involving the fabrication of various inscriptions to overcome the resistance about new accounting technologies. Resistance as a management budgeting introduction may create tension with clinicians, who are a powerful group, if they perceive the new economic focus as a threat to their clinical freedom (Preston et al., 1992). One of Latour's tactics, "captation" was especially used during the fabrication of management budgeting. This tactic is about controlling the resistance by moving from "*difficult to object to, statements*" to "*lesser known and more contestable ones*" as well as linking the rhetoric to accepted "*facts and to more and more authorities of support*" (Preston et al., 1992, p.575).

The study of the translation process unravels the institutionalization of new technologies, through a growing transformation within networks, until the new technologies become "*“matters of fact” or taken for granted*" (Preston et al., 1992, p.567). It means that the fabrication process not only includes how the technology is constructed, but also how human actors react to it during the translation. The translation concept visualizes the close link between the technology and the social as both the new accounting technology and the involved organizational actors are transformed during the implementation process.

The second study (Chua, 1995) is about an attempt to introduce performance measurement systems within the Australian health care system. State agencies, driven by critics about public administration

quality, seek new tools of control and accountability (such as case-mix accounting systems) in order to improve hospital benchmark and resource allocations (Chua, 1995).

Chua defines the sociology of translation as a framework to emphasize: *“the competitive, connected and communal processes of knowledge creation and the crucial role of networks of interests”* (Chua, 1995, p.115-116). In particular, she claims that the concept of translation is a tool to investigate: *“the social linkages and practices that: (a) enabled this group of account-fabricators to begin the construction of “new” accounting numbers, (b) sustained their activity over several years, and (c) persuaded them to “consent” to the numbers finally created”* (Chua, 1995, p.113). Moreover, the sociology of translation highlights the processes through which reality becomes a constructed notion, where nonhuman elements such as accounting numbers are used to draw attention to a certain representation of reality fulfilling common interests.

The study visualizes the construction process of a new economic reality for hospitals and how specific power constellations may explain the process's outcomes. Translation illustrates the fact building process leading to changes in the representation of hospitals based on new accounting numbers. It shows how an expert group made of hospital personnel, regional and national officers and academics, manages to enroll enough allies to its network by using IT software and various inscriptions (called *interessement devices*) to initiate and achieve the accounting change desired (Chua, 1995). The numbers produced by the case-mix system are seen as the outcomes of a negotiation process between the different interest groups for whom approximated figures, giving a certain representation of hospitals' reality, were good enough as long as these numbers could fulfill their goals.

Chua summarizes the fact building process in the following manner: *“In short, account fabrication was a decision-laden process rooted in faith and shot through with the Social. Reality did not come first, but after socialized processes of making and judging representations.”* (Chua, 1995, p.140). For her, accounting is *“a constitutive practice”* (Chua, 1995, p.137). This means that accounting is not a neutral practice, but an instrument to construct new knowledge on shared interests, transforming the representations of health care organizations as well as the power balance within.

The three following studies are all within the health care sector in New Zealand (Lowe, 2001; Lowe, 2000; Lawrence et al., 1994). The third and the fourth studies (Lowe, 2001 and 2000) deal with the introduction of new accounting practices (case-mix accounting systems), while the fifth study (Lawrence et al., 1994) is more at the norm level, dealing with the general introduction of new accountability mechanisms imported from the private sector.

The third study (Lowe, 2001) deals with the implementation process of a case-mix accounting system within a large regional hospital in New Zealand in a health care reforming context inspired by the NPM ideology. The main purpose of the study is to draw attention on the close links between

human and nonhuman elements as an outcome of accounting practice. In particular, the study highlights the constitutive role of nonhuman elements (accounting systems) helping to fulfill “*broader social goals*” (Lowe, 2001, p.75). In the study, the case-mix implementation was seen by managers and clinicians as a solution to current issues as well as potential future ones (Lowe, 2001). Based on IT software, the case-mix system enabled the obtaining of both clinical and cost information data, and therefore improves the basis for decision-making and the measurement of performance (Lowe, 2001).

Translation processes are about “*fact production*” (Lowe, 2001, p. 82). Lowe described these processes using the concept of modalization: “*The processes involved perceive actors engaging within one another and consciously or unconsciously enrolling allies to move their claims in the direction of fact...these allies take the form, in addition to other humans, of texts, inscriptions machines and technology*” (Lowe, 2001, p. 82). The author’s contribution to case study research was to highlight the influence of technology (like accounting systems) on the identity of organizational members. For him, the principle of symmetry and the concept of modalization as well as more generally the sociology of translation enabled the visualization of the fabrication process of hybrid components (called quasi objects or knowledge objects) such as accounting devices and systems. Knowledge objects mix technology and human action (inscriptions) and these objects play an increasing role in the development of organizations. Lowe’s study focused on the role of spokespersons and knowledge objects to initiate organizational change illustrated with the implementation of a case-mix accounting system. For Lowe (2001), ANT supports the view that power lies in networks composed of human and nonhuman actors and in the capability of the enrolling actor to channel other actors towards the desired goal.

The setting and the issue of the fourth study (Lowe, 2000) are very similar to the previous one. It is also about the implementation process of a case-mix (accounting systems and clinical budgeting) in a large regional hospital in New Zealand (NZ), particularly the role and influence of accounting and information technology on the organizational context. For Lowe, the case-mix implementation was a means to render operational the NZ health reform at the micro level. Furthermore, it enabled central institutions to act at a distance by introducing private sector management tools in order to increase hospitals’ accountability and improve their poor financial situations (Lowe, 2000).

Lowe uses the translation concept and its four phases to explain the outcomes of the organizational change process emphasizing its selective and manipulating aspect. In the study, a case-mix team is in charge of the implementation using the different components of the case-mix technology to enroll and convince different interests groups within the hospital. For example, in order to enroll clinicians, the perspective of extracting clinical information from the new technology is put forward as a better argument than new performance measurements. Translation shows how actors interact and build alliances during the process in order to favor specific aims (Lowe, 2000).

Moreover, the author associates translation with small movements, where the main actor tries to gradually fabricate a convincing rhetoric connecting his/her solution to the problem at hand with

undisputable and worldwide preoccupations that make it difficult to refute (Lowe, 2000). This technique facilitates the enrolment and the mobilization of actors within the network. Therefore, the process perspective is essential for Lowe since one can visualize the hesitant and gradual network building (Lowe, 2000). Lowe emphasized the unpredictability related to fabrication processes. This is unpredictable since one never knows in advance if the four phases of translation will be successfully carried out, leading to a success or a failure of the innovation. Besides, success is never completely achieved and depends on the continuous efforts of the main actor (actors) to keep the network strong and the construction stable.

Findings also draw attention on the strength and the role of nonhuman elements such as accounting and other information systems. Nonhuman elements are defined as actants, which can condition organizational actors' behaviors and perceptions (Lowe, 2000).

The health care sector of NZ is also the setting of the fifth study (Lawrence et al., 1994). The setting is selected as “...one of many to be targeted for greater efficiency and accountability” based on the reforming trend of Financial Management Reforms (FMR), where the introduction of market mechanisms is to improve decision making and resource allocation (Lawrence et al., 1994, p.76).

The study, within a NPM context, deals with the fabrication process of new accounting technologies before they are implemented and institutionalized within the organizational setting. The aim of the study is to describe such a process by taking into account the broader social and political context in which it is enacted. The authors emphasize the importance of the context, since it is the rhetoric of “*economic- managerial arguments*” that enables the emergence of new accounting technologies and practices; what they call “*accounting colonization*” (Lawrence et al., 1994, p.70).

They used Callon and Latour earlier works (1981,1987) to explore and understand the complex process through which emergent practices become a part of a new economic reality within health care organizations and how this reality “*come to be socially constructed, especially in the area of “techno-science”*” (Lawrence et al., 1994, p.71). For the authors, the introduction of new accounting technologies, imported from the private sector, are not only “*neutral devices of recording and reporting financial transactions*” but also an important part of the ideology reducing the representation of hospital reality to economic terms (Lawrence et al., 1994, p.80).

They focused on one of the four phases of translation (enrolment) as this phase enables to unravel the logic of the process as well as the “*mechanisms of influence*” (Lawrence et al., 1994, p.72). For them, enrolment meant tracing the process by which some actors try to convince others of a “*common cause or interest*”, based on various maneuvers and rhetoric (Lawrence et al., 1994, p.73). As such, their study highlights the intricate associations and relations, defined as networks, involving macro (social, political, economic) and micro (organization) influences that lead to the fabrication of new accounting technologies. At the macro level, the study shows that the government did not

succeed in constructing a strong network of actors to support its view and had to tone down its ambition of introducing full market mechanisms in the management of health care. However, the government did manage to reorganize hospitals into business entities though providing temporary financial support to ensure they were able to maintain a certain level of health services despite their financial distress. The findings of the study show that through the reforming of health care, the government distanced itself from the direct managing of health care while keeping a tight control on the hospitals through new mechanisms of accountability.

More generally, even though the study emphasizes the importance of several contextual factors on change processes, the authors presented one contextual factor in particular. This factor is the power balance between the actors involved in the fabrication that would condition the outcomes. Findings of the study also showed that at the local level, accounting in action is closely linked with broader societal purposes and citizens' identities.

### **Obligatory Point of Passage (OPP)**

Only two of the health care studies use the concept of OPP (Lowe, 2000; Chua, 1995). Moreover, Chua is the only one within the empirical studies to associate this concept with human elements (Chua, 1995). This is in accordance with her position on nonhuman elements only having a peripheral role within translation. She places the OPP, the experts' team from the University, at the centre of the case-mix project defining it as: "... *the channel through which all other network interests must pass*" (Chua, 1995, p.122). On the other hand, Lowe (2000) defined an OPP as specific practices (such as centers of calculation) used by the main actor to frame the behavior of other entities according to the main actor's goals.

### **Black boxes**

All the five health care accounting studies use the black box concept. However, Lowe provides a rich description of black boxes, which are true to ANT, as outcomes of science and society, while confirming the concept's association with power issues. Lowe's definition (2001) of black boxes is: "*The boxes comprise most clearly scientific instruments and technological objects. These objects mix into the fabric of society and provide "allies" which enable things to happen, organizations to grow; some individuals to accumulate power and so on*" (2001, p.77).

More generally, the studies associate the concept with the achievement of a transformation process as the innovation is accepted and institutionalized (that is black-boxed) (Lowe, 2001, 2000; Lawrence et al., 1994; Preston et al., 1992). In these studies, the black box takes the shape of new performance measurement systems where accounting is a central component. Two of the studies (Lowe, 2001, Preston et al., 1992) emphasize the fact that even if a black box has become what Lowe called "*a "finished" system, a closed black box*" (Lowe, 2001, p.95); the black box can still be reopened, leading to new transformations and controversies. Moreover, for Chua (1995) and Preston

et al. (1992) the concept of black box is related to power, since it is defined as a technology beyond the user's understanding, yet delivering useful outputs. However, for Chua, a "*total black box*" can be a hindrance since its users need to understand its inner logic to be able to make useful decisions (Chua, 1995, p.128). Furthermore, for Lowe (2000) black boxing is a complex mechanism including several black boxes that though a result of human actions can transcend them and restrain organizational activities within a predefined path. By doing this, black boxing means power since it influences the whole social structure of the organizational entity (Lowe, 2000).

### **Principle of symmetry**

For Lowe (2001, 2000) the principle of symmetry is a central concept within ANT, which asserts that the role played by accounting systems and techniques is as important as the one played by human actors in organizational change processes. Therefore, for him one needs "*to apply a symmetrical anthropology*" when studying accounting in action, which means to use the same approach for nonhuman elements as for human subjects (Lowe, 2001, p.81). In both studies, he relied heavily on this principle to collect and analyse the empirical data (Lowe, 2001, 2000).

For him, if one acknowledges this principle, one recognizes the centrality of accounting as: "*... a practice and as an object with its own existence and agency*" (Lowe, 2001, p.94). However, Chua refused to accept this interpretation of the principle of symmetry, where nonhuman elements (such as computer software or hardware) are considered as actors in the same way as human agents are. For her, if one does so one: "*... reifies machines and technologies in a way which detracts from the purposive activities of their designers*". She argues that only human actors are capable of constructing accounting numbers in a purposeful manner in order to reach specific goals. For her: "*Software, by contrast, has neither interest nor agency*" (Chua, 1995, p.117).

### **Strategy**

There are two Danish studies (Skærbæk et al., 2009; Skærbæk et al., 2004) about strategy describing the privatization process of a Danish ferry company and the fabrication of a new firm strategy.

### **Danish maritime sector**

#### **Translation and phases of translation**

The first study (Skærbæk et al., 2004) focused on the relationship between strategy alternatives and accounting during the restructuration of a Danish maritime company (Ferry) as a consequence of a privatization process inspired by NPM reforms. The study highlights the political maneuvering within and outside the firm's boundaries to explain the strategy process outcomes. According to the authors, the strength of translation is to erase "*organizational boundaries*" to illustrate the construction of a firm's strategy (Skærbæk et al., 2004, p.21). The authors use the translation concept and the four phases of translation to show how power relations are temporarily constructed to



achieve specific strategy alternatives by building alliances on shared interests, while isolating enrolled actors from potential opponents.

Using the sociology of translation, the authors conceptualize accounting as a dynamic and non-neutral tool (called an interestment device) that is deeply involved in organizational changes since accounting has the capacity to adapt to different political agendas. In the study, accounting shifts content from a means of control to a means of financing, helping to temporarily construct power constellations at a political level in order to launch a new firm strategy. During the privatization process, the focus on a new strategy of the firm moved back and forth from a public sector rationale, based on resources control, to a private sector rationale (“entrepreneurship”) and so did the accounting devices chosen. For example, enrolling entities that promoted an expending strategy carefully chose particular accounting devices (such as specific investment calculation methods) to support their view of development, while excluding other accounting devices they associated with a public sector rationale of resource scarcity and as such, potential obstacles to their goals. The study showed that the groups of actors involved were channeled towards specific strategy alternatives, through the use of the accounting devices selected, in order to control the change process. Different accounting devices were used at different times to support different agendas and interests (Skærbæk et al., 2004). Therefore, for Skærbæk et al. (2004) power is not something given and related to persons or entities but something constructed through the chosen associations of actors, where accounting (and accounting devices) play a central part.

### **Obligatory Point of Passage (OPP)**

In order to facilitate the realization of a new change strategy, Skærbæk et al. assimilated the concept of OPP to necessary steps such as “*development not liquidation*” or “*a motion to invest in the Ferry Company*” that are allied with NPM mechanisms (Skærbæk et al., 2004, p.24 and p.26).

### **Framing and Overflowing**

The second study (Skærbæk et al., 2009) was about the role played by accounting devices in the construction of a Danish ferry company’s corporate strategy as the company underwent an organizational change process. In particular, the study illustrates how alternative combinations of calculative devices influenced the corporate strategy’s final outcomes in different ways: “*the accounting devices perform strategic work, because they participate in shaping strategic identities and rationales*” (Skærbæk et al., 2009 p.15).

The authors use the concepts of framing and overflowing to exemplify “*the contingent nature of strategy*” as a combination of accounting devices chosen may lead to one strategy alternative, while another combination might allow other alternatives (Skærbæk et al., 2009, p.3). As such, the study highlights the constitutive role of nonhuman elements, such as accounting devices, which mobilize a company towards a specific direction visualized through its corporate strategy.



The concept of framing is associated with a selection of accounting devices that help to create distinct boundaries within which the strategy alternatives are channeled. The concept of overflowing is seen as an expected response to framing attempts (Skærbæk et al., 2009). New accounting devices are introduced to disturb the previously established boundaries for actors' interactions. These new devices contribute to the emergence of concerned groups, refuting the previous framing attempt. For example, the authors show how "... *an emerging concerned group*" uses calculations to channel the process of the construction of the strategy in a specific direction (Skærbæk et al., 2009, p.6). Framing and overflowing are used to highlight the dynamic and ambiguous role-play by accounting devices. Their alternative interpretations or uses may lead to successful framing attempts or to controversies and overflows (Skærbæk et al., 2009). Findings show that overflows might lead to unexpected outcomes, if not restrained, as new actors get in a power position to modify the direction of the strategy process.

Furthermore, for the authors, it is not the accounting devices alone, but the human actors that form a composite entity called a "*calculative agent*" (Callon, 1998, p.256), which plays the active role in the constitution of the corporate strategy of the firm by using and combining these strategies.

### **Black box**

Both studies (Skærbæk et al., 2009; Skærbæk et al., 2004) used the concept of the black box.

Skærbæk et al. (2004) linked the concept of the black box with power issues. In their study, thanks to political support (parliamentary voting); specific accounting devices become black boxes whose content is hermetically sealed by some actors such as the National Auditing Office. This is because detailed knowledge could endanger the whole strategy process and modify the outcomes. However, the black boxes are reopened after political pressures modify the power balance. As a consequence, the existing supporting network collapses, which leads to a new strategy orientation for the firm. The authors claim that: "*accounting, in the present context, plays a role as a political manoeuvre*" (Skærbæk et al., 2004, p.36).

In the other study, the authors defined corporate strategy as a sum of "*leaky black boxes*" that they assimilate into overflowing (Skærbæk et al., 2009, p.15). It means that, for them, corporate strategy is only: "*an emerging calculative collective and temporary achievement*" that are subject to continuous modifications since people in association with accounting devices might disturb the construction (Skærbæk et al., 2009, p.15).

## Reporting practices

There are two studies (Christensen et al., 2007; Cuganesan et al., 2007) about reporting practices. Both studies used the concepts of translation and OPP. In addition, Christensen et al.'s study (2007) used the concepts of framing and overflowing.

### Comparative study between Denmark and Australia about environmental policy

#### Translation

The first study about reporting practices (Christensen et al., 2007) is a comparative study of two public sector jurisdictions located in Denmark and in Australia. The study looked into factors that influence accountability innovation outcomes within the reporting of environmental policy. The study also explored, within a NPM context, the broader issue of: "*the influence of 'within government' forces on disclosure decisions*" since central agencies enrolled by the government are responsible for the implementation of such innovations (Christensen et al., 2007, p.103).

The translation concept and its different phases are used to describe not only how accountability innovations are transformed "*into local reporting practices*", but also to investigate the factors influencing the construction of those practices that may lead to unexpected outcomes (Christensen et al., 2007, p.103). The study showed that different socio-technical devices are used in the construction of these new frames of accountability (Christensen et al., 2007).

According to the study, the process's outcomes were not in accordance with the premises for the introduction of the reporting change. This is due to the power balance between the actors involved in the implementation of the accountability innovations. In particular, central agencies play a major role as they "frame" the translation, focusing on budget contingencies instead of using the innovations to communicate new performance measurements to a broad range of potential users. The reporting agencies go along with this resource spending rationale since they realize that resistance could threaten their own existence through budget cuts. Moreover, the outcomes also deviate from the premises of the implementations since the stated audience for the environmental reports (citizens) did not actively participate to the implementation process. This is because most of the communication takes place between the central agencies and the reporting agencies "*in hidden locations*" (Christensen et al., 2007, p.123). The authors claim that by not involving the citizens, "*heated situations*" are avoided and the construction of new reporting practices can be stabilized (Christensen et al., 2007, p.125).

#### Obligatory Point of Passage (OPP)

For Christensen et al. (2007), the concept of OPP is very similar to Skærbæk et al.'s 2004 study. OPP is assimilated into nonhuman elements, which are various devices such as reports, laws or the

accountability innovation itself. These devices help to enroll actors (such as the Parliament or the future reporting agencies) in the change project according to the path designed by the “*instigating actors*”, these being the Danish Ministry of Finance or an Australian central agency (Christensen et al., 2007, p.113).

### **Framing and Overflowing**

Similar to Skærbæk et al.’s 2009 study, Christensen et al. (2007) associated the concept of framing with the use of accounting devices and various inscriptions. For example, inscriptions such as “*Statutes*” help to build a frame for the translation of accountability innovations (Christensen et al., 2007, p. 107). However, these framing devices are used by the instigating actors (central agencies) to frame the translation within their budget contingencies rather than within the stated objectives of the innovations. Accounting systems set the boundaries for actors’ interactions through delivering information where the content and design are carefully orchestrated by the information producer.

Furthermore, the authors link framing and overflows in the following manner: “...*framing is the production of order while overflows are the production of disorder and they are produced simultaneously*” (Christensen et al., 2007, p. 106). The authors focused on how overflows occur during interactions as well as their consequences on the framing attempts. Similar to Callon’s assumptions (1998), their findings showed that under hot situations the number of overflows increase menacing framing attempts, while under cold situations they are few and not disturbing for framing attempts.

### **Australian public sector organization within land management**

The second study about reporting practices (Cuganesan et al., 2007) dealt with the production of Intellectual Capital (IC) discourse and the enrolment of its potential audience in an Australian public sector’s organization. Within a NPM context, the public sector’s entity had been reorganized into a private sector business entity to improve its performance. The IC’s introduction was a means to manage and communicate the firm’s values in order to generate new sources of income (Cuganesan et al., 2007). Cuganesan et al.’s study aimed at visualizing and analyzing the outcomes of the construction of IC’s discourse and the effects on material practices such as accounting practices (Cuganesan et al 2007). Discourse is understood here as a process leading to the construction of an object that is based on speeches and texts (Cuganesan et al., 2007).

### **Translation**

The authors argued that IC discourse is: “*particularly appropriate for the translation concept*” as IC is imported from another context (the private sector) with different meanings and uses (Cuganesan et al., 2007, p.888). The concept of translation is used to capture the changing viewpoints between the producers and the consumers as they interact throughout the construction of the IC discourse. The

authors focused on one phase of translation, which is the interestment process of potential consumers. In particular, the authors looked into: "... *the subsequent effects of this for organizational practice*" (Cuganesan et al., 2007, p.887). For them, IC discourse, though not replacing traditional accounting, influenced changes in management practices by helping move the firm's focus from short-term contingencies to long-term sustainability (Cuganesan et al., 2007). As such, IC also contributed to the creation of new management practices.

The study showed that compared with a more codified approach, a loose and flexible construction of IC discourse helps: "*to enroll a broader audience of discourse consumers*" as it increases the range of potential interpretations based on consumer interests (Cuganesan et al., 2007, p. 905). IC discourse's manipulability helps to erase the boundaries of organization levels since employees can associate it with "*local concerns*" such as the growing age of the workforce and the potential loss of competence (Cuganesan et al., 2007, p.906). However, the authors emphasized the never-ending process of such a construction (seen as a translation). This is because it is a continuous and demanding task for IC producers to keep IC numerous consumers enrolled and actively participating in the construction (Cuganesan et al., 2007).

### **Obligatory Point of Passage (OPP)**

Cuganesan et al. (2007) associated the concept of OPP with the whole IC project and not with a single element during the production process of IC, since they see this project as the first step in carrying out broader organizational changes.

The next section analyses the findings of the literature review in order to provide answers regarding ANT's contribution to the studies of accounting change processes within the public sector setting, especially health care.

### **Analysis and contribution of the studies reviewed**

The aim of the essay is provide answers to the research question: How ANT concepts have been used and understood to study accounting change processes and their outcomes within a public sector setting (especially health care). In particular, the focus is on ANT's contribution to such empirical studies. The scope of the review includes a selection of fourteen top-ranked Anglo Saxon accounting journals. Twelve empirical public sector accounting studies that use the ANT methodology are included in the review.

The time span for the twelve studies stretches from 1992 to 2009 (seventeen years). However, half of the reviewed studies are published in the last two years (2007-2009). This shows the increasing and recently acknowledged popularity of ANT within accounting research. Nearly 80% of the Latour or Callon references used in the studies are prior to 1998, while almost 50% are older than 1990. As

such, accounting researchers have focused on the original definitions of ANT concepts, even though there have been developments to some concepts in more recent years (Law, 1999, Callon, 1999, Latour, 2005).

The concept of translation, which is central within ANT, is common to all the empirical accounting studies. The concept focuses on change processes before the changes are taken for granted and institutionalized within their new setting. Therefore, the twelve studies reviewed contribute a better knowledge about implementation processes of NPM reforms that introduce new accountability mechanisms within a public sector setting. Furthermore, the use of the ANT concepts such as “actor-network”, “network”, “actors” and “actants” emphasizes the dynamic but also the complexity of such translation processes. These are complex since humans and technologies are linked together in fragile associations at certain times and places to trigger radical change. As a consequence, translation process outcomes are difficult to anticipate.

The concepts of OPP: black boxes, framing and overflowing were used in eleven of the twelve studies. These concepts draw attention to how power relations are built in order to control the outcomes of change processes. Gendron et al.’s study (2007) does not use these concepts. Instead, the authors refer to one of the four phases of translation, which is problematization. During this phase, the initiator of the change tries to impose on other actors a specific path for the implementation of the change, and by that achieve a power position. As such, the problematization phase is closely related to the concepts of OPP and framing. In the other eleven studies, the OPP concept was used in accordance with the ANT definition. An OPP is a way to channel the interests of the different actors in a specific direction in order to control the change process. However, OPP’s content does vary from taking the shape of human elements (such as the project team in Chua, 1995) to a mere facilitating device (Skærbæk et al., 2004) or even as a coercive device (Skærbæk et al., 2007). In Cuganesan et al.’s 2007 study, the OPP concept was taken one step further. The IC project itself was the OPP, which would trigger further organizational changes leading to new management practices. This interpretation is in line with the broad definition of Latour back in 1983.

All the empirical studies describe change processes according to what Latour (1987) called accounting in action. However, accounting for Latour was a generic term that described the fabrication of scientific facts through stepwise actions mixing people and devices. In the studies reviewed, “accounting in action” means telling stories about the implementation of new accountability mechanisms, in particular accounting change processes within a new organizational setting (public sector). Within accounting research, these empirical studies help to fill a gap acknowledged by Chua fifteen years ago. Chua claimed that there was a lack of “*detailed ‘micro’ ethnographies of the making up of accounting numbers in organizational settings*” or more generally studies “*that portray and comment on the tactics, tools and tribulations of account fabrication*” (Chua, 1995, p.114).

Furthermore, the studies reviewed focused on what is called “*ethno-accountancy*”, which is most and foremost the description of how accounting is practiced (Mackenzie, 1996, p.59). As such, eight of the twelve studies deal with new practices within performance measurement (Skærbæk, 2009; Skærbæk et al., 2007; Lowe, 2001; Lowe, 2000; Chua, 1995; Preston et al., 1992) or reporting practices (Christensen et al., 2007; Cuganesan et al., 2007), while one study includes norms and practices within performance measurement (Gendron et al., 2007). Only three studies are at a norm level that includes new accountability standards (Lawrence et al., 1994) or strategy choices (Skærbæk et al., 2009; Skærbæk et al., 2004).

The empirical method chosen for the case studies reviewed confirmed their contribution to the above-mentioned gap in accounting research. Nine of the twelve studies followed an ethnographic approach to collect their data. Ethnography can be defined as “*the study and systematic recording of human cultures*” (www.merriam-webster.com). The nine studies are longitudinal studies that combine observations, interviews and archival data. As such, they provide a rich description of the account fabrication. The remaining three studies are also longitudinal studies; yet do not provide the full definition of an ethnographic approach. Moreover, they offer too detailed descriptions of change processes with data collection based on interviews and archival documents (Christensen et al., 2007; Lowe, 2000) or mainly archival documents (Preston et al., 1992).

The emphasis on a specific methodological approach shows how faithful the studies are to the ANT philosophy of being the little “ant” described by Latour (2005). Latour (1999) called this approach ethno-methodology. This means that the researcher, through an immersion in the organization studied (observations, interviews, texts), can describe as closely as possible the actors involved. As Latour put it: “...*actors know what they do and we have to learn from them not only what they do, but how and why they do it*” (Latour, 1999, p.19). Nevertheless, ANT accounts of organizational change processes, although they offer abundant descriptions of the context in which the account fabrication takes place, may be criticized for their lack of objectivity. This “storytelling” can be considered as both a strength and a weakness for ANT. It is a strength, since researchers are allowed great freedom to choose which actors to follow, the level of analysis or the starting and ending points of the description. It is a weakness, since ANT studies may be considered as fictions (Chua, 1995), which “...*reflect any reality other than that of its authors*” and therefore are not given enough credibility within the accounting research community (Alcouffe, Berland and Levant, 2008, p.5).

## Conclusion

Based on the studies reviewed, the contribution of ANT to the study of accounting change processes is summarized in the following findings.

The *first finding* is that ANT emphasizes the relationship between context and change process outcomes. This is in line with ANT origins from STS, where the fate of an innovation (failure or success) is not only contingent on the characteristics of the innovation itself but also on the context in which it is implemented. As such, one cannot separate the technical (innovation) from the social. The social can be understood as the context, which encompasses all the factors that may influence the innovation's outcomes such as political, economical, cultural or structural. These factors may be outside or inside the organizational entity's boundaries in which the innovation is implemented. For example, at the international level, all the studies reviewed refer implicitly or explicitly to a NPM context of reforming. They are implicit, since reform trends introducing new forms of accountability based on the private sector mechanisms are mentioned as triggering the accounting changes, even if the NPM label is not used (Lowe, 2000). The NPM context is therefore a common denominator between the studies. The NPM ideology plays a central role regarding the characteristics of the innovations as well as the rhetoric used by the actors leading the change processes. Furthermore, at the national level, the political context is considered as an important part of the setting of the studies. It is often political forces that initiate a change and its further implementation at a lower organizational level. Additionally, political forces may help to gain/keep control over the path taken by the innovation, not only at the start, but also during its implementation process (Skærbæk, 2009; Gendron et al., 2007; Christensen et al., 2007; Skærbæk et al., 2007; Skærbæk et al., 2004). The focus on the importance of the context leads to the second finding of the literature review.

The *second finding* is that ANT draws attention to the relationship between the power balance between the actors involved and the accounting change process outcomes. However, through the concepts of translation and actor-network, ANT focuses on how one can achieve a power position and by that refutes power per se. According to ANT, power is contextual and relational (Latour, 1986). Furthermore, power is associated with the notions of control. Black box, OPP and the more recent concept of framing are all ANT concepts associated with control, while the newer concept of overflowing illustrates the loss of control (disturbance of order). The overflowing concept is also described as: "leaky black boxes" (Callon, 1998).

Seven of the twelve studies (including all the five health care studies) use the concept of black boxes (control). The ANT assumption behind the concept is that in order to maintain control over a process, one has to black box as many elements as possible to prevent controversies and stabilize the process outcomes. However, the studies highlight the fragility and the temporality of power or dominance (Skærbæk et al., 2009; Skærbæk et al., 2004; Lowe, 2001; Lowe, 2000). Though the innovation itself may finally be black-boxed and institutionalized, this black box can be reopened, leading to new translations, controversies and struggles. Chua (1995) has further reflected on the black box concept. For her, a total black boxing of an innovation may lead to the stabilization of the process, but it might also lead to organizational failure. If users of the innovation are left outside the implementation process, they may not understand its functioning, which could lead to potential misuses and a lack of flexibility. Furthermore, Lowe (2000) argued that once the black boxing is

achieved, the innovation itself could transcend its implementers and by that, influence the whole organization in unexpected ways.

The framing concept, which is related to the OPP concept, is used in three recent studies (Skærbæk, 2009; Skærbæk et al., 2009 and Christensen et al., 2007). Framing is also about controlling the path of an innovation by constructing boundaries within which the enrolling entity channels its implementation. Similar to Callon's definition (1998), these three studies draw attention to the role played by actants (mainly accounting devices and IT systems) in the framing attempts in order to impose a specific rationale within which solutions to the implementation challenge will be found. Overflowing means disorder and destabilization of the change process (Skærbæk, 2009; Christensen et al., 2007). Overflows threaten framing attempts by allowing controversies and resistance. It is an important concept since it helps to explain unexpected outcomes of change processes. If the enrolling entity fails to control overflows, concerned groups might emerge to take over the translation process, leading to different outcomes than what were first anticipated (Skærbæk et al., 2009).

As mentioned above, power becomes relational within ANT. It is an effect of the construction of networks made up of heterogeneous elements both human and nonhuman. This leads to the *third finding* of the study, which emphasizes the role of nonhuman elements (actants) in accounting change processes. Therefore, the role of actants, which are accounting devices such as inscriptions, calculations or IT systems, is debated in the twelve studies reviewed. All the studies' findings acknowledge the constitutive role of accounting in accounting change processes within public sector. However, the role and influence of accounting devices on the outcomes of change processes varied among the twelve studies. Three health care studies focused on the human agency within translation processes and only attributed a contingent role related to human actions to the nonhuman elements (Chua, 1995; Lawrence et al., 1994 and Preston et al., 1992). For the other nine studies, they either explicitly (Lowe, 2001 and 2000) or implicitly relied on ANT's principle of symmetry, which grants equal importance to human and nonhuman roles in change processes. Six of the twelve studies visualized accounting as a non-neutral tool that was flexible enough to adapt to varying interests. For example, depending on which calculation method accounting information is based, accounting will visualize one representation of the reality of an entity measured in economic terms, while leaving other aspects in the dark. These alternative representations of an entity are contingent on the interests of the groups they serve (political, governmental and so on). The influential role of actants within the change process is reinforced by the ANT concept of performativity as described in Skærbæk et al. (2009). This means that actants not only influence the outcomes of change processes, they also contribute to shape and transform the identities and behaviors of organizational members (Skærbæk, 2009; Skærbæk et al., 2007; Lowe, 2001 and 2000).

However, Latour (2005) recently stated that the principle of symmetry is merely a way to broaden the usually restricted roles of nonhuman elements within social science studies. As such, Chua's latest development (1995) is the only one in accordance with Latour, since she rejects this equal



footing of human and nonhuman elements. In doing so, Chua helps some of ANT critics (Lee et al., 1999). For her, nonhuman elements, such as objects, cannot have interests or agency. Lowe (2001) refuted Chua's criticism even though he agreed that although it is the humans who create accounting numbers, he maintained that accounting (or accounting systems) could soon prove to have a life of its (their) own!

The *last finding* is that the studies, according to ANT assumptions, draw attention to the emergence of a new organizational knowledge and expertise within the public sector setting that can modify the power balance within organizations. Four studies focused on the role of experts (Skærbæk, 2009, Christensen et al., 2007; Gendron et al., 2007 and Skærbæk et al., 2007). Central agencies (Christensen et al., 2007) or public sector auditors (Skærbæk, 2009; Gendron et al., 2007 and Skærbæk et al., 2007) become experts since they are appointed to enact NPM reforms through the translation of accountability innovations within the new public sector's setting. They are the links between the macro and micro levels. Their success or failure is contingent on their abilities to build their new expertise (knowledge) through the use of supporting networks made up of human and nonhuman elements. The supporting network is the means to impose specific views and rationales on other organizational members. The translation concept is used to visualize the fact building process with step-wise movements (and transformations) from one level to another (and often back and forth), describing the involvement of actors and actants to support (or reject) the innovation. The expertise issue once more emphasizes that for ANT, power is relational as it is the strength of the constructed network that leads to the desired outcomes and that maintenance is needed to stabilize these outcomes.

It is worth noticing that the accounting studies reviewed showed little conceptual development of ANT concepts. Maybe thus far, ANT's recent and still limited use within accounting research has fulfilled the expectations of its users as it is. For example, the studies reviewed have a narrow understanding of the network concept, which may restrain the possibilities offered by ANT of providing further explanations for unpredicted outcomes. The studies always describe some "traceable" networks, such as specific associations or combinations of human and technological devices. However, Latour has further developed the network concept (Latour, 2005, 2003, 1999). For Latour, the network concept focuses on capturing movements and not necessarily a description of elements that form a "visible" network (Latour, 2005). Within the concept, "work" (as in work net) highlights the fact that translations are associated with struggles (as in the implementation of changes), which often means resistance before acceptance (or rejection). However, if one wants to associate network with a physical object, the association with for example fishing net (as in work net) is more appropriate (Latour, 2003). The "fishing" net implies movement but also random associations, which are produced under the transformation process and as such, may help to explain surprising outcomes. A way of avoiding the network trap is to use the concept of overflows (Skærbæk, 2009; Skærbæk et al., 2009 and Christensen et al., 2007). Overflows are further conceptual developments of networks and translation, contributing to richer explanations of change processes. As this concept is quite recent (Callon, 1998), it might explain why the majorities of studies (including all health care studies) do not rely on it to explain unexpected turns during

translations such as resistance, controversies or failure. Overflows are created by the introduction of externalities (such as shells or shoes “captured” together with fish) brought in by participating actors during the translation. These externalities have to be integrated, or even better, suppressed to be able to control and stabilize change processes.

As a summary, the studies reviewed showed that the ANT methodology is useful to describe dynamic and complex accounting change processes that lead to a new organizational knowledge. ANT helps to provide explanations to the outcomes of change processes in relation to the specificities of the implementation context. In particular, ANT is seen as a relevant theoretical lens to magnify the importance of power in these processes. However, power within ANT needs to be constructed and maintained through strong associations of human elements and technical devices, where accounting plays a key role. Furthermore, as mentioned in the analysis, the studies reviewed help to fill a gap within accounting research about the construction of accounting numbers within a new organizational setting (public sector) (Chua, 1995). However, these public sector’s studies only showed a partial picture as they either focused on the translation of norms or practices. As such, there is a need for studies that show whole translation processes of accounting innovations from their adoption to their implementation. Such studies may contribute a deeper insight to the complexity of translating the private sector’s tools at different organizational levels since specific contingencies and divergent interests may create resistance and controversies, influencing the path and the pace of accounting change processes.

## Appendix

**Table 1 Comparison ranking Journals between ASTON and ABS lists**

<b>JOURNALS</b>	<b>JOURNALS FROM ASTON BUSINESS SCHOOL 2006 LIST (RANKING 3*)</b>	<b>JOURNALS FROM ABS 2008 LIST (RANKING 4 AND 3*)</b>
THE ACCOUNTING REVIEW	3*	4*
ACCOUNTING, ORGANIZATIONS AND SOCIETY	3*	4*
JOURNAL OF ACCOUNTING AND ECONOMICS (A)	3*	4*
JOURNAL OF ACCOUNTING RESEARCH	3*	4*
REVIEW OF ACCOUNTING STUDIES	NOT LISTED	4*
ACCOUNTING AND BUSINESS RESEARCH (A)	3*	3*
<b>ACCOUNTING AND FINANCE ISSUES</b>	3*	NOT LISTED
ACCOUNTING, AUDITING & ACCOUNTABILITY	3*	3*
ADVANCES IN INTERNATIONAL ACCOUNTING	3*	2*
AUDITING: A JOURNAL OF THEORY AND PRACTICE	3*	2*
BEHAVIORAL RESEARCH IN ACCOUNTING	3*	3*
CONTEMPORARY ACCOUNTING RESEARCH	3*	2*
CRITICAL PERSPECTIVES IN ACCOUNTING	3*	3*
FINANCIAL ACCOUNTABILITY AND MANAGEMENT	3*	3*
<b>INTERNATIONAL JOURNAL OF ACCOUNTING EDUCATION AND RESEARCH</b>	3*	NOT LISTED
JOURNAL OF ACCOUNTING AND PUBLIC POLICY	3*	3*
<b>JOURNAL OF ACCOUNTING EDUCATION</b>	3*	NOT LISTED
JOURNAL OF ACCOUNTING LITERATURE	3*	3*
JOURNAL OF ACCOUNTING, AUDITING AND FINANCE	3*	3*
<b>JOURNAL OF BUSINESS</b>	3*	NOT LISTED
<b>JOURNAL OF BUSINESS FINANCE AND ACCOUNTING</b>	3*	NOT LISTED
<b>JOURNAL OF INTERNATIONAL ACCOUNTING, AUDITING AND TAXATION</b>	3*	NOT LISTED
<b>JOURNAL OF MANAGEMENT OF ACCOUNTING RESEARCH</b>	3*	NOT LISTED
MANAGEMENT ACCOUNTING RESEARCH	3*	3*
<b>MANCHESTER SCHOOL</b>	3*	NOT LISTED
<b>RESEARCH IN ACCOUNTING REGULATION</b>	3*	NOT LISTED

Note: Journals have been retrieved from the ABS list above, which belonged to a category from non-relevant fields such as finance and taxes since the list (like the Aston business School list) categorizes journals from the Finance and the Accounting fields (F&A) together. Journals with a ranking lower than 3\* have also been retrieved from the ABS list.

## **Table 2 Final list of journals selected**

1. The Accounting Review
2. Accounting, Organizations and Society
3. Journal of Accounting and Economics
4. Journal of Accounting Research
5. Review of Accounting studies (\*)
6. Accounting and Business Research
7. Accounting, Auditing & Accountability
8. Behavioral Research in Accounting
9. Critical Perspectives in Accounting
10. Financial Accountability and Management
11. Journal of Accounting and Public Policy
12. Journal of Accounting Literature
13. Journal of Accounting, Auditing and Finance
14. Management Accounting Research

Note: Only journals with a common ranking of 3 for the ASTON Business School list and 4 or 3 for the ABS list are in the final selection. The exception is “Review of Accounting Studies” (marked with \*), which is ranked 4 in the ABS list, yet not listed in the Aston Business School list.

**Table 3**

**Distribution of the 12 selected articles from Anglo Saxon top ranked accounting journals using ANT within the public sector**

Journal / Year	Authors	Title	Topic	Sector & Country (**)	Research Method
AOS 2009	Skærbæk P. Tryggestad K.	The role of accounting devices in performing corporate strategy	The role and influence of accounting devices in the elaboration of corporate strategy	Ferry division of the Danish government-owned railway company DSB	Case study
AOS 2009	Skærbæk P.	Public sector auditor identities in making efficiency auditable: The National Audit Office of Denmark as independent auditor and modernizer	To increase knowledge about “ <i>how performance auditors manoeuvre when being in action</i> ” by studying the role of public auditors in the implementation of a performance –accountability project (costing system based on the private sector) within the Danish Defense Forces	Danish Defense  Public sector	Case study
AAA 2007	Christensen M. Skærbæk P.	Framing and overflowing of public sector accountability innovations  A comparative study of reporting practices	The factors influencing “the success, failure or imperfection of accountability innovations” within two jurisdictions in a public sector setting	Two Environmental agencies  (Denmark and Australia)	Case study  (multiple units)

AAA 2007	Cuganesan S. Boedker C. Guthrie J.	Enrolling discourse consumers to affect material intellectual capital practice	“The production of Intellectual capital discourse at lands NSW and how consumers are enrolled, is examined”	Australian public sector organization	Case study (single unit)
FAM 2007	Skærbæk P. Thorbjørnsen S.	The commodification of the Danish Defence forces and the troubled identities of its officers	The implementation of a new performance measurement and its influence on the shaping of officers’ identities within the Danish Defense		Field study
AOS 2007	Gendron Y. Cooper D.J. Townley B.	The construction of auditing expertise in measuring government performance	The role of public sector’s auditors in the implementation of new Public Management reforms	Public sector Canada	Case study
AAA 2004	Skærbæk P. Melander P.	The politics of the changing forms of accounting  A field study of strategy translation in a Danish government-owned company under privatization	The role of accounting in the privatization process of a Danish maritime company	Danish government-owned ferry company	Case study (Ethnographic study)
MAR 2001	Lowe A.	Accounting information systems as knowledge-objects: some effects of objectualization	The role of accounting systems as knowledge-objects in the shaping of organizational life through the case of the implementation of a case-mix accounting system within health care	Health care Hospital New Zealand	Case study /theoretical discussion
AAA	Lowe A.	The construction of a network at Health Waikato the	The role of accounting and information technology in the implementation process	Health care	Case study

2000		“towards clinical budgeting” project	of a clinical budgeting system in a hospital.	New Zealand	
AOS 1995	Chua W.F.	Experts, networks and inscriptions in the fabrication of accounting images: a story of the representation of three public hospitals	Explaining accounting change through the mobilization of actor –networks and expert inscriptions	Health care Public sector Australia	Case study (multiple units)
AAA 1994	Stewart L. Manzurul A. Lowe T.	The Great Experiment: Financial Management Reform in the NZ Health Sector	“The fabrication of accounting technologies as part of the instrumental purposes of opposing groups “ in a change process	Health care New Zealand	Case study (single unit)
AOS 1992	Preston A. M. Cooper D.J. Coombs R. W.	Fabricating budgets: a study of the production of management budgeting in the national health service	“ To investigate the processes by which a management budgeting initiative in the UK hospital system takes hold (or not) in specific hospitals”	Health care England	Case study (regional district)

**Table 4**

**Classification of the 12 selected articles according to their main use of ANT concepts, type of public sector setting and type of study**

<b>Journal / Year</b>	<b>Authors</b>	<b>Title of the article</b>	<b>Main ANT Concepts</b>	<b>Public Sector Setting</b>	<b>Focus of the study</b>
AOS 2009	Skærbæk P.	Public sector auditor identities in making efficiency auditable: The National Audit Office of Denmark as independent auditor and modernizer	Four phases of translation and identity concept  Framing and Overflowing	Danish Defense Department	Performance Measurement
FAM 2007	Skærbæk P. Thorbjørnsen S.	The commodification of the Danish Defence forces and the troubled identities of its officers	Four phases of translation and identity concept  Obligatory Passage Point (OPP)	Danish Defense Department	Performance Measurement
AOS 2007	Gendron Y. Cooper D.J. Townley B.	The construction of auditing expertise in measuring government performance	Translation and especially problematization (one of the phases of translation)	Alberta province in Canada	Performance Measurement
AAA 2007	Christensen M. Skærbæk P.	Framing and overflowing of public sector accountability innovations: a comparative study of reporting practices	Translation  OPP  Framing and Overflowing	Two public sector jurisdictions in Denmark and Australia	Reporting practices  Comparative study



AAA 2007	Cuganesan S. Boedker C. Guthrie J.	Enrolling discourse consumers to affect material intellectual capital practice	Four phases of translation  OPP	Australian public sector organization	Reporting practices
AOS 2009	Skærbæk P. Tryggestad K.	The role of accounting devices in performing corporate strategy	Problematization  Framing and Overflowing  Performativity Black boxes	Danish Ferry company	Strategy choice
AOS 2009	Skærbæk P. Tryggestad K.	The role of accounting devices in performing corporate strategy	Problematization  Framing and Overflowing  Performativity Black boxes	Danish Ferry company	Strategy choice
MAR 2001	Lowe A.	Accounting information systems as knowledge-objects:  some effects of objectualization	Translation (Modalization concept)  Black boxes	A regional hospital in New Zealand	Performance Measurement

			Principle of Symmetry		
AAA 2000	Lowe A.	The construction of a network at Health Waikato the “towards clinical budgeting” project	Four phases of translation  Black boxes  OPP  Principle of Symmetry	A regional hospital in New Zealand	Performance Measurement
AOS 1995	Chua W.F.	Experts, networks and inscriptions in the fabrication of accounting images: a story of the representation of three public hospitals	Interessement and enrolment  Black boxes  Principle of Symmetry  OPP	Health care sector in Australia	Performance Measurement
AAA 1994	Lawrence S. Manzurul A. Lowe T.	The Great Experiment: Financial Management Reform in the NZ Health Sector	Enrollment (one of the four phases of translation)  Black boxes	A local hospital in New Zealand	Performance Measurement
AOS 1992	Preston A. M. Cooper D.J. Coombs R.W.	Fabricating budgets: a study of the production of management budgeting in the national health service	Translation  Black boxes	Health care sector in Great Britain	Performance Measurement

## Essay 2: Black boxing accrual accounting into health care: the 2002 Norwegian health care reform

### **Abstract**

With the 2002 Norwegian health care reform, central government overtook county ownership of public hospitals and reorganized them into legal entities called Health Enterprises. The consequence of the new organizational frame was the introduction of accrual accounting, the private sector's accounting framework. It is an interesting issue how Norway, known as a reluctant reformer (Bleiklie, 2000), could pass and reinforce within a few months a reform leading to such a radical accounting change.

The essay explores how accrual accounting was introduced into the Norwegian public sector setting through a description and analysis of the social and political processes of the 2002 Norwegian health care reform. Actor Network Theory (ANT) is used as the theoretical framework. ANT has been previously used in accounting research and in health care particularly. However, the methodology has not been applied yet to follow the adoption process of an accounting change before its implementation into the organizational setting. This paper draws inferences from ANT to highlight how actors (human and nonhumans) gained a position of power by being temporarily linked together, making possible the introduction of accrual accounting into the Norwegian health care setting.

## Introduction

New Public Management (NPM) has been a current characteristic of the public sector's reforms in the last three decades. However, in 1990 Hood was the first to use the NPM label as he retrospectively described the public sector's management changes in OECD countries during the 1980s (Hood, 1990). Even though NPM is a broad concept, a common feature of the NPM reforms has been the introduction of the private sector's management tools and practices into the public sector setting (Hood, 1995). According to Pettersen (1999), the reform of health care and hospitals in particular is one of the public sector areas where NPM reforms have been introduced in order to improve the efficiency in service production.

Already during the 1980s, Anglo Saxon countries such as New Zealand, Australia or the United Kingdom had a strong NPM focus. Norway was not in this category of early reformers (Hood, 1995). On the contrary, Norway has been characterised as a slow reformer, especially within the health care sector (Byrkjeflot, 2005). It was not until 2002 that Norway followed the NPM trend with a radical health care reform. Radical, because Norway introduced accrual accounting, which is the accounting framework used in the private sector, into the public sector. This was a breach in the Norwegian way of reforming. Prior to this reform, the central government's interventions regarding mandatory accounting regulations had been few and conditioned by "dramatic" circumstances demanding immediate solutions. For example, the first governmental intervention was as early as 1923. Several municipalities were on the verge of bankruptcy and a new accounting regulation was passed in order to closely monitor their financial situations (Olson and Mellemvik, 1996). Later on during World War II (1942), another accounting regulation was passed, which strengthened the central government's control over the municipalities and replaced previous accounting regulations (Olson et al., 1996). Unlike the two former radical accounting changes, the introduction of accrual accounting, as a major feature of the 2002 Norwegian health care reform, was not triggered by dramatic circumstances.

For that reason, the essay explores how the radical accounting change was introduced within the Norwegian health care setting, departing from the former cautious approach of reform. However, the focus of the study is not on accrual accounting as such, but on the process that led to its introduction. The Actor Network Theory (ANT) is used as the theoretical framework to better understand a complex change process that shifted Norway's status from a careful and incremental policymaker to an eager follower of NPM -based reforms.

Based on the ANT framework, the aim of the empirical study is to describe and analyse the social and political processes of the 2002 Norwegian health care reform in order to find out how accrual accounting was introduced into the Norwegian public sector setting. The essay

aims at answering the following research question: **How was accrual accounting introduced within the Norwegian health care setting?**

The study is based on the ANT concepts of: translation, network, actors, actants (nonhuman elements) and black box. These concepts help in revealing the detours, the manoeuvres and the heterogeneous alliances, which condition the failure or the success of the change process. The essay places a special focus on the use of black boxes, which are often made of several complicated devices hidden to their users (Callon, 1981). In the essay, a new organizational framework for hospitals (called Health Enterprises), which is the cornerstone of the 2002 Norwegian health care reform, is assimilated to a black box. Within the Health Enterprise black box is, among other black boxes, another black box, which is accrual accounting. The black box concept draws attention to power issues since one needs strong actors during the political process to prevent the opening of the organizational framework black box before the adoption of the reform, which would lead to delays and controversies.

The other ANT concepts of translation, actor network and actants also place a focus on power issues during change processes (Latour, 1986, Law, 1986). These concepts help to illustrate how power is contextual and constructed through a network made up of human and nonhuman elements that will make the accounting change feasible. As such, ANT blends together the social and the technical worlds creating strong, yet often temporary alliances that initiate change. ANT's emphasis on the importance and the role of nonhuman elements in social processes is what it makes it appealing (Latour, 1987, Callon 1986). Moreover, Bleiklie's description of policy design supports the relevance of the ANT approach used in the study. Bleiklie claims the following: "*---policy design takes place under conditions where it is the outcome of power plays among actors who are involved in the process. The outcome depends on the positions they hold, the resources they control, the coalitions they make and the bargains they are able to strike*" (Bleiklie, 2000, p.118).

Furthermore, ANT confirms the need for studying accounting changes within a broad context since Hood (1995) argues that the wide variety of NPM reform outcomes is difficult to explain from a single contextual factor. Even if ANT has been used in the accounting field as early as 1991 (Robson), in particular within the health care sector (Lowe 2001; 2000; Chua, 1995; Lawrence, Manzurul and Lowe, 1994; Preston, Cooper and Coombs, 1992), the methodology has not yet been applied at a national level to explain how a mandatory accounting regulation could be introduced as a smuggled good, which upset the traditional values steering the management of the Norwegian public sector.

The remainder of the essay proceeds as follows. The first section situates Norway within the international NPM context at the time of the reform. It also includes a short description of the Norwegian health care context prior to the reform. The next section describes the Actor Network Theory (ANT), the theoretical lens through which the Norwegian health care reform is described and analyzed. Then follows a section on the research method used during the

empirical study. The empirical section describes the social and political processes of the 2002 Norwegian Health care reform. The following section draws inferences from ANT to analyze how the change in the organizational framework of hospitals triggered the introduction of accrual accounting within Norwegian health care. The last section presents a conclusion to the empirical study.

## The International NPM Context and the National Norwegian Health Care Context

### **The International NPM context**

Since the 1990s, NPM principles have spread throughout OECD countries. At the beginning of 2000, many countries were either implementing or considering implementation of NPM mechanisms into the public sector. However, it is difficult to provide a comprehensive description of the NPM ideology (Ferlie, Asburner, Fitzgerald and Pettigrew, 1996). Until now, a central focus has been to increase transparency and accountability within the public sector in order to improve its efficiency by the introduction of new mechanisms (Modell 2004; Power, 2003, 1997; Sahlin- Andersson, 2002). The managerial ideas behind these mechanisms have been borrowed from the private sector setting (Lapsley and Pallot, 2000; Power, 1997) and then translated (transformed) into the public sector setting. Furthermore, numerous translations across space and over time have made the categorization of the NPM reforms a complex task. As such, NPM reforms may prescribe centralization and control as well as decentralization and autonomy (Lægreid, Opedal and Stigen, 2005). Norway has followed the NPM trend by focusing on the accountability issue. However, Norway has limited its translation to one sector (health care). This is because the health care sector, especially hospitals, has been the focus for NPM reforms seeking to improve efficiency within service production (Pettersen, 1999). Therefore, the case of the 2002 Norwegian health care reform provides an illustration of the variety of NPM translations.

### **The National Norwegian Health care context**

Prior to the reform, Norway had had a decentralized health care structure since 1970 (Hospital Act, 19.06.1969). With the exception of two highly specialized Oslo hospitals, which were under central government ownership, the responsibility and the ownership for the remaining hospitals and health care in general (with the exception of primary care) was shared between nineteen counties. However, in 1974, Norway was divided into five health regions (Report No 9 of the Storting, 1974-1975) with a regional health committee for each region to coordinate hospital functions across county borders (Opedal and Stigen, 2005). In 1999, the regional

health committees' role was made mandatory.

From 1997 and onward, there has been a step-wise reform of the Norwegian health care sector based on the NPM ideology. This gradual NPM translation started with the introduction of quasi markets (Byrkjeflot, 2005). In 1997, activity-based financing was introduced to increase the hospitals' activity level and reduce waiting lists. In 2001, patient rights legislation was strengthened with the right to choose between hospitals (Vrangbæk, Østergren, Birk and Winblad, 2007; Hagen and Kaarbøe, 2006). However, these measures did not solve major issues such as increased waiting lists and budget deficits and the "*blaming game*" between counties and central government continued (Hagen et al., 2006, p.320). As such, the 2002 Norwegian health care reform can be seen as the newest translation, inspired by the NPM trend to resolve health care issues through a deeper reorganization of the sector. At the national level, central government overtook the ownership of hospitals, while at the local level; hospitals were organized into Health Enterprises (HEs) under the coordination of five regional health enterprises (RHEs) at the regional level. The details of the 2002 Norwegian health care reform are provided in the empirical section.

According to Lægreid et al. (2005), the NPM recipes have generally been presented as universal panaceas. Yet beyond the NPM ideology, the country's context at the macro and/or micro levels may help to provide explanations for the various outcomes of NPM reforms. At the macro level, contextual factors can include historical or institutional factors. At the micro level, the context may encompass many different aspects such as: the political alliances within government, the number of levels from central to local government (centralized or decentralized features), and the organizational structure used by central government to exercise control and reporting (agencies), or even the actors involved in the reform process. As such, one can expect that the NPM ideas of the 2002 Norwegian health care reform have been translated (transformed) within the specificities of the national context into which they are introduced (Lægreid et al., 2005). As a consequence, one needs a theoretical framework that will take into account the importance of such a broad context in order to describe the social and political processes of the 2002 Norwegian health care reform and help to understand how accrual accounting was introduced into the public sector setting as a radical change that broke away from the Norwegian tradition.

## Theoretical Framework: Actor Network Theory (ANT)

This section outlines the theoretical foundations of the essay, giving a brief introduction of Actor Network Theory (ANT) before focusing on its relevance to the study.

ANT is based on the works of Latour, Callon, and Law even though it was originally conceived by Latour (1987, 1986) and Callon (1986) in the field of Science and Technology Studies (STS). According to Monteiro (2000), ANT is a theory dedicated not only to

understanding change and order but also to the underlying power structure that triggers change.

### **Translation: a central concept within ANT**

For Callon, translation enables the connection of things that were formerly different (Callon, 1980). For Latour, translation means transformation and movement since it not only creates a new connection but also: “...*modifies the original (design)*” (Latour, 1999, p.179). Callon and Latour (1981) claimed that to gain authority, actors need to recruit other human and nonhuman elements to support their interpretation of reality. It means they have to convince others that the suggested translation of reality is parallel to their own interests and goals. Yet, translation is also about trying to act as a representative by imposing specific roles on others and speaking for them (Callon and Latour, 1981). To achieve success, other actors’ worlds must be colonized (Burgess, Clark and Harrison, 2000). Recruited actors become allies and form a network with the capacity to act as a collective (Latour, 1999). Simultaneously, the network builder becomes an authority who has a right to speak in the name of the others.

### **Network; actor and actants within ANT**

For Latour (1991), even if social theory takes into account the importance of nonhumans (for example material infrastructure or documents), it is nevertheless a very inaccurate portrayal of their mobilization and engagement into social links. While the term network is commonly utilized in social science to describe technological relationships, economic forms, political structures, and social processes, ANT uses the term in a different way. Or rather, it might be argued that ANT bundles all these network applications together, for ANT is concerned with the heterogeneity of networks (Murdoch, 1998). Networks can be defined as relationships between entities (Scott and Wagner, 2003). Furthermore, Latour (1991) says that by reconstructing networks, one can give a full description of power and domination. Latour argued that to understand domination, one has to weave social relations into a fabric that includes human and nonhuman elements, which offers the possibility of holding society together as a whole.

Within ANT, human are often called actors, while nonhuman elements are called actants. However, the distinction between the two concepts is difficult to grasp because for Latour an actant is: “... *something that acts or to which activity is granted by others.... An actant can literally be anything provided it is granted to be the source of an action*” (Latour, 1996, p 373). The concepts of actor and network are reciprocally constituted, since an actor needs a network to achieve his/her goal, while a network is made up of actors (and actants) linked together and transforming each other (Callon, 1987).



## **Black boxes and ANT**

Latour (1991) said that domination is never capital that can be stored in a bank. Domination has to be deployed, black-boxed, repaired, and maintained. Callon (1981) defined a black box as something complicated, where inputs become outputs due to a combination of knowledge, techniques, and know-how. Black boxes contain assumptions that are taken for granted, offering solutions to problematic issues. Their content is not revealed in order to maintain control over the situation. ANT shows how a discourse, a story creates entities, which combined together produce outputs that make sense (Callon, 1981). These entities function as black boxes that support without revealing the arguments of the discourse. For Callon (1981), there is not any discourse without a power struggle, which enables one to shut and steer these black boxes (Callon, 1981).

## **ANT fields of application**

In the last twenty years, ANT's appeal has been linked to the study of heterogeneous elements that have usually been kept separate, such as technological devices and human beings. ANT helps to analyse how social and material processes (subjects, objects, and relationships) become entwined into complex sets of associations in the construction of a new order or reality. Murdoch (1998) argued that in Latour's view, social order, power, scale, and even hierarchy are consolidated and preserved by material objects. For him, materials solidify social relationships and allow these relationships to endure through space and time. However, it is a paradox that what makes ANT so appealing has also been criticized.

Chua (1995) says that Latour and Callon present objects (nonhumans) in the same manner as persons (actors), which deprive humans of their superiority, since they design the nonhuman elements as well as being the only ones with a purpose in action. ANT calls it the principle of symmetry, where there is no prior conception of which materials will act, and which will function as simple intermediaries for the actions of others (humans or nonhumans) (Murdoch, 1998; Latour, 1993; Law, 1992). Hanseth and Monteiro (1997) added that this principle means that all entities are granted the same explanatory status.

For Law (1999), ANT is continually translated because of its wide field of application. This makes ANT difficult to describe as a set of specific actor-network principles or as a consistent theoretical perspective (Calas and Smircich, 1999). However, one can outline some basic features (Callas et al., 1999):

1. ANT is less a coherent theoretical framework than a methodology showing how an actor uses heterogeneous elements to perform discourses and build a rhetoric that will change power structure and initiate change.
2. The use of networks illustrates how elements are drawn together and ordered by an actor who constructs his new reality regardless of the time and space to which these

elements originally belonged (Latour, 1990).

3. How the rhetoric to get in a power position is built using specific tools, such as black boxes, and how elements in the network are translated to fit a new reality.

In this study, ANT has been used to describe the heterogeneous elements from different worlds (social and technical) that were needed to pass a comprehensive organizational reform leading to the introduction of a radical accounting change (accrual accounting) within a short time period. ANT helps to illustrate how politics and network building made possible the introduction, without controversies, of new accounting knowledge imported from another setting (private sector). Robson (1991) was one of the first accounting researchers to use the Latourian epistemology. Through narratives, this new line of research helps to visualize how particular forms of accounting knowledge are constructed (Jones and Dugdale, 2002; Briers and Chua, 2001; Mouritsen, Larsen and Bukh, 2001; Chua, 1995; Robson, 1992, 1991).

In a public sector setting, previous empirical accounting research using ANT has studied the change processes dealing with new accountability mechanisms imported from the private sector (Skærbæk, 2009; Skærbæk and Thorbjørnsen, 2007; Christensen and Skærbæk, 2007; Cuganesan, Boedker and Guthrie, 2007; Gendron, Cooper and Townley, 2007) within health care as well (Lowe 2001; Lowe 2000; Chua, 1995; Lawrence et al., 1994; Preston et al., 1992). However, their studies focused on the implementation process of the new accountability techniques. Moreover, this study takes place prior to the implementation process and focuses on the social and political processes leading to the introduction of such mechanisms. Contrary to Åkerman and Peltola private sector empirical study (2006), where various accounting devices (calculations) played a central role within political processes, this study shows how a new accounting technique (accrual accounting) was adopted as a sealed black box, which was left outside political debates and controversies.

The next section describes the research method of the empirical study.

## Research Method

Choosing a specific research method means choosing a definite strategy to collect data in order to answer a research question (Ghauri and Grønhaug, 2002). Moreover, the choice of the research method is also conditioned by a theoretical framework selected beforehand.

In accordance with ANT, which is the selected framework, the study relies: “... *on a lot of texts*” (Skærbæk, 2009, p.5). Furthermore, ANT focuses on the context and because I have worked for more than ten years (1991-2001) within Norwegian health care, I have a good knowledge of the context since I was still working as a financial manager in a county hospital at the time of the reform. As such, I followed with interest the debates both within and outside the hospital’s arena during the change process. In addition, many reports and studies about the 2002 health care reform have provided further background in order to understand the reform context (see for example: Hagen et al., 2006; Byrkjeflot, 2005; Læg Reid et al., 2005; Opedal et al., 2005 or Pettersen, 1999). As a consequence, the study is mainly based on archival data (documents) to reconstruct the story of the social and political processes of the 2002 Norwegian health care reform in order to explain the introduction of accrual accounting.

The method was to retrace how the change to accrual accounting had been accounted for in the different documents collected on the reform process. The reform process was initiated back in 1987, with the first central government report. Therefore, the study has a longitudinal design stretching from 1987 to 2001. The focus has been to find out if accrual accounting’s role in the reform had been modified during the different phases of the reform process when seen as a power struggle i.e. a translation process (Åkerman et al., 2006).

The empirical material consists of the following central documents:

- The Health Enterprise Act (Ot. Prop.66, 2001), which is the cornerstone of the 2002 Norwegian health care reform as well as the background documents mentioned in the Health Enterprise Act such as:
  - Three central government reports (NOU 1987; NOU 1996 and NOU 1999) and a report of the Norwegian parliament No. 24 (1996-97) assessing hospital ownership and new organizational framework.
  - A draft about a new organizational model under county administration (Ot. Propr. No. 25 (1999-2000)) presented as an alternative to the organization model described in the Health Enterprise Act.
  - A central government report about the division of tasks between the central government, regions and municipalities (NOU 2000:22)
- Website of the Ministry of Health and Care Services about the health care reform (<http://www.regjeringen.no/nb/dep/hod/>).
- Newspapers (Aftenposten, Dagbladet, Drammens Tidende)
- The 300 answers to the consultative round carried out during spring 2001 prior to the parliament submission of the Health Enterprise Act.
- Research studies about the same subject:
  - Research articles about the 2002 Norwegian Health care reform and New

Public Management with a focus on health care.

- A Masters thesis focusing on the decision process leading to the health care reform (Herfindal, 2004)

Within ANT, actors are defined by what they do, their performance (Latour, 1999). However, since in English the word “actor” is often limited to humans, both denominations “actor” and especially “*actant*” are used to describe nonhumans (Latour, 1999, p 303). Moreover, the author argues that actors’ competence is deduced afterwards and made part of an institution (Latour, 1999). The competency of the participants (actors and actants) depends on how much weight they are granted, based on what can be traced in the collected archival data. Furthermore, Law (1999) said that ANT is an art of describing by telling a set of little stories. As such, in the description and analysis of the social and political reform processes, the role attributed to the different documents (seen as actants) is contingent on the role the narrative attributes to them.

#### **Methodological strengths and weaknesses:**

It is arguable to use the validity concept when using qualitative data compared with quantitative data (Ringdal, 2001). The choice of the theoretical framework itself, ANT, also emphasizes the validity issue, since ANT is mainly about stories illustrating how heterogeneous elements are temporarily linked together to initiate changes. However, the findings of the study are strengthened by describing and documenting the research process and the data used. They are also strengthened when different archival sources concur and by that confirm the empirical conclusions. For example, a summary of the 300 answers from the consultative round was made and its content matched against the comments about the consultative round’s answers as reported in the Health Enterprise Act (Ot. Prop. 66, 2001). The purpose was to check that accrual accounting’s role (and absence!) had been correctly described in the reform process. Furthermore, I have also searched the Norwegian newspapers to complement my empirical study and corroborate my findings (Aftenposten, Dagbladet and Drammens Tidende).

The use of secondary data saves both time and resources. If the information collected through secondary data is sufficient to answer the research question, then it is not necessary to collect primary data (Churchill 1999).

The next section describes the social and political processes of the 2002 Norwegian health care reform based on the abovementioned documents.

# The Social and Political Processes of the 2002 Norwegian Health Care Reform

## **A change towards a new health care organizational framework is re-actualized as increasing costs fail to meet national health targets**

An increasing amount of public resources was spent on the health sector, making Norway one of the European countries – and the Nordic country – with the highest level of public spending on health service per capita. Even if financial resources kept growing, there were still unsolved issues:

- Increasing waiting lists even if there was a growth in the number of patients treated.
- The shortage of health care professionals was stronger than ever before despite a strong rise in the number of health care professionals.
- A strong disparity in the services offered and the resources used, depending on the patient's place of residence and the hospital.

(Social and Health Department, <http://www.regjeringen.no/nb/dep/hod/dok/regpubl/stprp/20012002/stprp-nr-01-2001-2002>).

The increasing use of resources, without solving the abovementioned recurrent issues, brought into question the management of Norwegian health care and raised the issue of county ownership. Several reports from the Norwegian Parliament and central government followed one another for more than two decades, suggesting new ways of organizing health care in order to improve its management (Reports of Norwegian Parliament no. 9 (1974-1975); No. 50 (1993-1994); No. 24 (1996-1997); No. 43 (1999-2000); central governments reports (NOU 1987:25; NOU 1996:5, and NOU 1999:15)).

## **Central governmental reports take a major turn**

### **1. From decentralization to centralization of hospital ownership?**

In 1987, a public committee was assigned to evaluate the centralization of hospital ownership as county ownership had not solved the national health issues within the allocated budgets. The recommendation was still a decentralized structure to secure a democratic management of health care as well as the further existence of the counties, since health care was their core task (NOU 1987:25). Nonetheless, the Norwegian Parliament was determined to move towards a stronger centralization of health care to fulfil national health targets, even if hospital efficiency was improving (Norwegian Parliament Report No.50 (1993-1994). However, by the middle of the 1990s, the growth in expenditures had risen yearly by 4.8% in real terms and the central government had to find new means of solving the health challenge (Social and Health Department, <http://www.regjeringen.no/nb/dep/hod/dok/regpubl/stprp/20012002/stprp-nr-01-2001-2002>).

## **2. Towards a new organizational framework for Norwegian health care?**

In 1996, a second public committee had to assess alternatives regarding the ownership and organization of hospitals in order to try to fulfil national health targets within existing financial resources (NOU 1996:5). Committee members pointed out that in order to improve hospital total efficiency a more centralized ownership would be beneficial (NOU 1996:5, Chapter 14). However, they could not agree on a specific ownership structure or a specific organizational model for the hospitals.

Between 1996 and 1999, the hospital ownership issue was at rest, although, the central government kept working on the reform of health care since health budgets had grown twice as fast compared with other sectors (Hellandsvik, 2001). In addition, financial and legal measures were introduced to boost hospital activity levels, reduce waiting lists and strengthen patients' rights:

- In 1997, there was a change in hospital funding with the introduction of activity-based financing, based on a medical classification system (Diagnosis Related Groups, DRG) in order to increase hospital activity and improve efficiency.
- Legal means were introduced to secure patient rights (Patient Rights Act of July 2, 1999)

In 1999, a third committee was created to consider alternative organizational models for public hospitals since the new abovementioned measures proved difficult to combine (NOU 1999: 15). Organizational models regulate the relationship between the political and the managing levels through specific rules regarding the control, communication, and management of hospitals ((NOU 1999: 15). Once more, the majority of the committee members could not agree on a specific model. However, a near majority of the committee suggested a radical organizational change granting hospitals a more independent status, which would give hospital leaders better grounds for decision-making.

At that point, the centralization vs. decentralization of hospital ownership was not an issue since one of the two recommended models was based on county ownership (NOU 1999:15, Chapter 9.6). This model, called “Fylkeskommunalt Selskap”, was presented as an attachment since it had not been passed as a legal act at that time (NOU 1999:15 Chapter 7.4). The two models were based on a single hospital owner to exclude private company access to the running of public hospitals. Furthermore, the limited company model was also ruled out to protect hospitals from bankruptcy and to emphasize public sector responsibility.

## **A new government presses forward a radical health care reform**

### **A new government puts reform of the public sector on the agenda**

In March 2000, a minority Labour government came into power after the resignation of the minority Center government (Hagen et al., 2006). Right away, the new prime minister stated that his government would modernize the public sector, especially health care, by introducing

a stronger receptiveness to solutions from the private sector. He gave a two-year time horizon for the reform of health care, which was to be based on more independent and accountable entities. He also implied a down-sizing of the counties (Herfindal, 2004). He appointed a new Minister of Health and Care Services, a graduate from both business and law schools, who came from a position as a chief executive in an international private company.

Shortly afterwards, the Prime Minister announced that his government would leave its mark, and not end as a conservative government that bypassed development. Though he intended to stick to the social democratic values of the welfare state (equality, justice, and solidarity), new measures would be introduced to initiate change. The Minister of Health and Care Services had a vision about the forthcoming health care reform as a reform of responsibility, which would centralize both the production and the financing of health care services under the central government. Furthermore, the reform would also emphasize the responsibility of hospitals by reorganizing them into legal entities (Herfindal, 2004; Social and Health Department, <http://www.regjeringen.no/nb/dep/hod>). The new government gave unequivocal signals that the reform would take place outside county ownership. Paradoxically, Parliament passed an act (Ot. Prop. No. 25 (1999-2000)) that enabled the counties to organize hospitals into legal entities since central government already had a similar organization model (NOU 1991:8). However, the Minister of Health and Care Services revealed that his plans did not include further county involvement in the reforming of health care, describing the new Act only as a step in the right direction to clarify roles and responsibilities (Herfindal, 2004).

### **The health care reform slowly takes shape**

At the beginning of July 2000, the first draft of the reform was issued, based on the following documents:

- The 1999 public committee report (NOU 1999: 15 “Hvor nært skal det være?”)
- The proposed Act regulating entities at the county level (Ot. Prop. No. 25 (1999-2000))
- The Act regulating entities at the central government level (“Lov Om Statsforetak”, 30.08.1991).

The draft was influenced by the Health and Care Services Minister’s own work experience from the private sector since it relied on increasing management’s freedom by minimizing day-to-day control from owners and politicians (Aftenposten, 30.06.2000). However, the Minister’s private sector background could be a concern for public sector values. By the end of 2000, he had to reassure his party members during the Labour Party conference that there was no room for privatization of health care. Once again, he emphasized that the reform was a winning case for the Labour Party and that it was time for decisions and actions (speech by the Minister of Health and Care Services, Folkets Hus, 09.11.2000). The implementation of the reform was moved forward to 01.01.2002 (Aftenposten, 10.11.2000).

A resolution was passed, stating that the central government would take over hospitals and reorganize them into legal entities. The Limited Company alternative was ruled out as expected. Furthermore, the board of directors was to include locally elected politicians to secure local democracy. A major point in the resolution was the acknowledgment that county existence was not threatened, even if the content of their future tasks was not clarified. Parallel to the health care reform process, a committee was assigned under the Ministry of Local Government and Regional Development to define future tasks for the counties. Even if the majority of the committee members agreed to maintain the counties, they could not agree on the nature of their future tasks (NOU 2000:22 “Om oppgavefordelingen mellom stat, region og kommune”).

The Minister of Health and Care Services assigned a small task force to prepare the bill, which concretized the content of the health reform according to the resolution. Centralization was combined with decentralized features with the creation of five regional organizational units. These units would act as an intermediary level between the central government and the hospitals for coordination and steering (Hagen et al., 2006). The number of organizational units (5) corresponded with the number of health regions established back in 1974.

The task force was working at a high speed, arguing that the quick tempo would reduce employee uncertainty under the change of ownership. Moreover, it would prevent counties from making financial decisions at the cost of the central government. The background documents for the bill were quite similar to the ones used six months earlier since another bill was drafted to reorganize the two central government-owned hospitals into legal entities. Additional background material included the 1996 central government report (NOU 1996:5 Hvem skal eie sykehusene?), as well as data about previous NPM experiences from Anglo Saxon countries (Herfindal, 2004).

### **The political game: the shortest deadline ever for a consultative round**

The bill was sent on a consultative round with the shortest legal deadline ever (six weeks) for such a comprehensive and radical reform. The short deadline triggered massive criticism, since it was said that this was to prevent a democratic process. Nevertheless, over 300 answers came back within the deadline. The answers were kept at a general and aggregate level. The critics could not be detailed since the bill was not (Ot. Prop. No. 66 2001).

The main criticism was the lack of evidence-based facts to support such a radical reform. Some answers even argued that the reform was swimming against the current decentralization stream within Europe (Regional council for middle Norway health region). Specific references on similarly updated international experiments were requested. Several answers demanded a new public committee report focusing on the sole subject and providing alternatives to the organizational model (Nordland and Møre and Romsdal counties, the



municipality of Trondheim, the Norwegian Health and Social union (NHS) and the union for local government employees (KS)). However, the majority of patient organizations and hospitals were supportive of the reform, especially the centralization of hospital ownership.

A recurrent criticism was about the effect of the re-organization of hospitals into legal entities on current employee rights. One of the major unions for health care workers claimed that only an organizational model in public administration could secure democratic control. Employers' organizations supported the reform, while user groups criticised the tempo.

Nonetheless, the Labour Party already knew the proposal could rely on support from the right wing Progressive Party and from the Conservatives. The Labour Party only needed to concede cosmetic changes to secure the majority of the votes (Herfindal, 2004). As a consequence, the following minor alterations were made:

- A paragraph was rephrased to exclude the possibility of privatization of core services (§39 Ot. Prop 66, 2001) and the names of the regional and the local legal entities were modified to avoid confusion with private companies' names.
- The role of the Norwegian National Audit Office was increased because of the health care sector's contribution within the Norwegian community, since it fulfils important public tasks in addition to the delivery of services. The Audit Office was granted a stronger right of access to the running of hospitals as a control organ for the Parliament (National Audit Office answer dated 10.05.2001).

### **Early won political allies weaken the resistance as the draft is submitted to the parliament**

In April 2001, the amended draft was submitted to the Parliament, where it was debated in the social committee. Once more, the process was influenced by the fact that the Labour Party knew the act would be passed thanks to its current political allies (the right wing Progressive and Conservative Parties).

The right wing Progressive Party supported the Labour Party because a general election was due in the fall and it was more important to get the act passed under a willing government than forcing too many amendments (Dagbladet, 18.05.2001). However, the right wing Progressive Party had a sole demand. Hospitals should be organized as legal entities under the regional organizational units to underline the two distinctive roles of purchaser (regional legal entity) and provider (hospitals). Furthermore, this organization framework would make a possible closing down of the hospitals more difficult. This demand was taken into account before the proposal came to a vote in Parliament. However, since the demand for local politicians' participation in the board of directors had been dropped, the leader of the right

wing Progressive Party met hard criticism from user organizations, since this was something for which he had previously fought (Herfindal, 2004).

The Conservatives' demand was the creation of regional offices in addition to the regional units to separate the purchaser and the provider roles at the regional level. This demand was rejected by the Labour Party's social political speaker, since he claimed that other countries with similar organizations had not succeeded with such a practice (Aftenposten, 18.05.2001).

The other parties mainly rejected the whole act, refusing to come up with alternatives, with the exception of one that was not taken into account.

The Labour Party speaker said the following when the amended act was finally debated in Parliament on 06.06.2001: "*Health Norway is ready for the European Champions League of health care*" (Herfindal, 2004, p.138). The social politician from the Christian People's Party replied by calling the reform the entry of technocrats and economists in health care since their concepts would be the ones in focus. The Minister of Health and Care Services stated that the focus was on responsibility, once again excluding privatization.

The Health Enterprise Act was passed on June 13th, 2001, without any further changes. Two days later, the Labour Party and its major ally, the right wing Progressive Party proposed a higher settlement of 200 million NOK to the counties.

### **A New Organizational Framework within Health Care: Centralization of Ownership and Decentralization of management**

The 2002 Norwegian health care reform is also called the hospital reform even though it encompasses other health care services. Primary care is not included in the reform as it is under the responsibility of the municipalities. The cornerstone of the reform is the Health Enterprise Act passed on June 13, 2001 (Ot. Prop. 66, 2001).

The reform is based on two main components and is called a responsibility reform (Ot. Prop. 66 2001). The first element is centralized control. Central government has the sole responsibility as it takes over the ownership of all public hospitals from the counties. In practice, the Ministry of Health and Care Services is the owner of the hospitals with an ownership department within the ministry as the location of administrative responsibility (Lægneid et al., 2005).

The second element is decentralized decision-making, since one of the aims of the reform is to make hospitals more accountable for their performance (Ot. Prop. 66 2001). As a

consequence, hospitals are reorganized into Health Enterprises (HE), which are “*independent legal subjects*” (Hagen et al., 2006, p.5). The new status gives hospitals an autonomous status since they are responsible for personnel and capital and are no longer a part of public administration (Hagen et al., 2006; Hellandsvik, 2001). This freer status was deemed necessary because hospitals are huge and complex organizations, which deliver services that, are not defined as a core task for the administration.

Five regional health enterprises (RHE) were established under the Ministry of Health and Care Services based on the 1974 division into five health regions. In 2007, the five RHE were reduced to four since the regions of South and Eastern Norway merged. The RHE combine the purchaser and the provider roles, representing a specific Norwegian solution (Læg Reid et al., 2005). The RHE have organized health care into thirty-five local health enterprises to separate the provider role from the purchaser role. The local health enterprises include over eighty hospitals and smaller institutions (Læg Reid et al., 2005). The RHE ensure the coordination and steering of the hospitals at the regional level. The RHE are legal entities with regional administrative functions and separate professional boards like the HE.

The RHE follow health laws as well as central guidelines on health policy objectives that are the basis for the management of the health enterprises (Christensen, Læg Reid and Stigen, 2004). The organization of the hospitals as health enterprises places clear demands on how the owner (The Ministry of Health and Care Services) may exercise its power of control. This occurs through the Health Enterprise Act, articles of association, budget priorities and steering documents (contracts) or by means of decisions reached at the enterprise meetings (“general assembly”) ( Christensen et al., 2004; Health and Social Department, <http://www.regjeringen.no/nb/dep/hod/>).

## Analysis of the social and political processes of the 2002 Norwegian Health Care Reform

Norway became a radical reformer with the 2002 Norwegian Health care reform even though it had been previously characterized as a slow one (Bleiklie, 2000). With a reform process driven at high speed, Norway followed the path of NPM pioneers such as New Zealand or Australia since hospitals had to comply with the Accounting Act (accrual accounting) used by private companies from 01.01.2002. NPM reforms introduced new accountability tools imported from the private sector to improve an alleged poor management and lack of efficiency as well as to reduce the increasing public sector deficits. With the 2002 Norwegian health care reform, the accountability issue was translated into a rhetoric of responsibility that would enhance transparency and efficiency through a new organizational framework for health care (Health and Social Department, <http://odin.dep.no/shd/sykehusreformen>).

The analysis of the social and political processes of the 2002 Norwegian health care reform was built on the ANT framework and aims at answering the research question: **How was accrual accounting introduced into the Norwegian health care setting?** In particular, the focus is on the power struggle between the actors involved during these processes as ANT highlights the relationship between power and change processes' outcomes.

### **How a dominant actor enrolled allies in his network to construct a new reality:**

The Norwegian Minister of Health and Care Services had a work background from private sector companies such as Statoil (one of the world's largest sellers of crude oil), where he had a position as group chief executive. He was therefore accustomed to relying on the private sector's management model and tools in the search for performance and efficiency. From the start, he was determined to initiate a major change in the running of hospitals by introducing private sector mechanisms. As such, he was a dominant actor during the processes leading to the reform's adoption. Furthermore, the Minister of Health and Care Services highlighted the fact that the Labour party was the obvious party to initiate the change at that specific moment (Aftenposten, 10.11.2000). He sought a short process before the general election. As such, there was no time to focus on details and future implementation technicalities.

In ANT, one of the key assumptions for initiating change is that a dominant actor manages to build a strong network of heterogeneous elements to convince people of the necessity of this change and that it is in their interests to make the change happen. For Calas et al. (1999) the network concept in ANT has to be understood more like topography and performance rather than a final or original state. This means that the elements of the network are chosen and associated in such a way that one follows the path (the map) the strong actor has drawn for others, regardless of time and space. These are heterogeneous elements since they include both humans (actors) and nonhumans (actants). The Minister of Health and Care Services constructed his own rhetoric on what was appropriate for a better management of hospitals based on his experience and his conviction ([www.regjeringen.no/nb/dokumentarkiv/Regjeringen-Stoltenberg-I/shd/2001](http://www.regjeringen.no/nb/dokumentarkiv/Regjeringen-Stoltenberg-I/shd/2001)). He gathered different elements collected across time and space to support his argumentation and enrolled key actors in the responsibility/efficiency rhetoric, which would help in fulfilling the Labour Party's interests and goals.

Health care expenses were running out of control as well as patient waiting lists when the new Labour government came into power and the Minister of Health and Care Services was appointed (Ot. Prop. No. 66, 2001, §2.2). The counties had failed to fulfil the national health targets within the allocated budgets. The Minister of Health and Care Services came up with a solution inspired by previous NPM experiments, where the private sector's management

model played a central role. The cornerstone of the model was a new organizational entity called “Health Enterprise”. The Health Enterprise model would help to increase transparency because the provider and purchaser roles were kept separate at two different organizational levels (regional and local). The HE model would also enhance efficiency as hospitals could be managed as autonomous entities. Since the HE construction was based on a private sector model, it would deliver financial information based on the private sectors’ accounting framework (accrual accounting). As such, the model would provide information about total hospital costs, which would improve decision-making at the local levels, while facilitating control from a distance. As such, the model complied with the two tenets of the reforming of health care: decentralized decision-making and centralized control.

Robson (1991) pointed out that the construction of a network has to have a purpose, i.e., a problem that needs solutions. That is exactly what the Labour Party and the Minister of Health and Care Services did in simplifying reality by combining various devices (government reports, increasing costs, NPM experiments, waiting lists, the Health Enterprise model and accrual accounting) that together produced outputs that would make sense (Callon, 1981). Robson (1991) added that afterwards, a normative component would compare the objects of the discourse with a set of ideal practices and that the next step would be to suggest a series of actions that would apparently remedy the deficiencies analysed through the discourse. This is what the Minister of Health and Care Services did by presenting the “private sector package”. In this package, the Health Enterprise concept as an autonomous legal entity had a central role in the proposed solution: the 2002 Norwegian health care reform and the Health Enterprise Act.

However, the Minister of Health and Care Services had to enroll and maintain powerful actors within his network to initiate the radical change within the time schedule (spring 2001). So the focus was on the Health Enterprise model and not on accrual accounting, even though accrual accounting’s introduction was a key element of the reform. This was meant to prevent powerful actors from realizing that the introduction of accrual accounting was far from straightforward within the new setting, thus refusing to support the reform at that time. The Minister of Health and Care Services had only to convince them that an organizational change was necessary and that the Health Enterprise model was the model to choose (Speech of the Minister of Health and Care Services, [www.regjeringen.no/nb/dokumentarkiv/Regjeringen-Stoltenberg-I/shd/2001](http://www.regjeringen.no/nb/dokumentarkiv/Regjeringen-Stoltenberg-I/shd/2001)). Accrual accounting would automatically follow, since it was the accounting framework stipulated in the Health Enterprise Act to regulate the reporting of financial information.

### **A heterogeneous network made up of various actors and actants:**

The actors enrolled in the Labour Party network were mainly politicians. This is because the Health Enterprise Act, the cornerstone of the 2002 Norwegian health care reform, had to be

passed in the Norwegian Parliament. However, other high credibility actors who joined forces to support the reform were also associated to the network to give weight to the content of the bill.

### **Political Actors:**

From the start, the Labour Party had almost unconditional support from the right wing Progressive Party and from the Conservative Party. The leader of the right wing Progressives said the following: “*This is a blueprint of the right wing Progressive Party’s politics. Broadly speaking, I could have written this myself*” (Aftenposten, 19.01.2001). The right wing Progressive Party and the Conservative Party had their own agendas and did not agree on all the elements of the reform. However, at that special moment, the reform fit the interests of both parties so they allowed themselves to become enrolled in the Labour Party’s network and supported the radical change. This was because the politicians knew a general election was coming (fall 2001) and they could not risk a new government with ideas more remote from their own convictions (Dagbladet, 18.05.2001).

### **Experts (Members of previous Central Government Committees):**

The Minister of Health and Care Services also found allies in former members of previous central government committees that could argue for and support the necessity of the reform. As early as 1996, a minority within one committee had given their support to a new organizational model based on central government ownership as a necessary step to strengthen regional cooperation and improve efficiency. These committee members were mostly members of the Academia with high credibility. One of them was a professor at a major business school; another had a position within a research institution, while a third one was dean at a major university (NOU 1996, Chapter 14).

In addition to the human elements seen as actors, the Labour Party network also included nonhuman elements seen as actants.

### **Public Documents (actants):**

The central government reports of 1987, 1996, and 1999 slowly prepared the groundwork for the necessity of a health care reform. The reports provided arguments for a need for structural changes within the sector. The reports also questioned county ownership, since recurrent issues such as increasing hospital costs and waiting lists remained unsolved.

Besides, the Minister of Health and Care Services excluded any document or fact from his rhetoric that could have calmed down the feeling of crisis that required quick action. For example, there was no mention of the reduction in health care expenditures to 8.5% in 2000 as a percentage of the GNP, even though they had continuously increased from 1997 to 1999 (National Centre for Statistics, <http://www.ssb.no/>). Furthermore, there was not any central

government report commissioned to analyse in detail the practical consequences of a central government takeover of the hospitals and the reorganization into autonomous legal entities, even though this had been a common practice prior to major reforms.

### **Previous reforms (actants):**

Previous health care reforms from Western Europe were presented in the background material as arguments to launch a similar reform based on the introduction of private sector mechanisms (Documents from the consultative round, Health and Social Department Social, <http://odin.dep.no/hod/>).

### **The Health Enterprise concept and other related actants:**

The Health Enterprise model was also assimilated as an actant. This actant was an important part of the intricate network constructed by the Labour Party to control the reform process and its outcome. This actant was combined with other actants such as the Health Enterprise Act and the two concepts of responsibility and efficiency, which were borrowed from the NPM rhetoric.

### **Answers to the Consultative Round (actants):**

All in all, the answers from the consultative round were quite positive to the reform, especially the takeover of hospital ownership by central government. However, the comments were kept at a very general level due to the short six-week deadline and the low technicality of the Act. The answers were articulated around the two tenets of the reform:

- For/against central government ownership.
- For/against the new organizational model that would reorganize hospitals into Health Enterprises.

A major concern was the protection of employee and patient rights as the organizational effects of the reform might affect these two groups. Many counties were focused on securing their future and as long as the economic settlement was fair enough they supported the reform (Health and Social department, consultative round documents, March 2001).

Representative and powerful actors as well as selected actants were associated with the Labour Party rhetoric in order to build a network, which would be kept strong and stable enough until the reform passed. The strength of the network was also reinforced by the combination of actants intertwined with one another. Former central government reports were presented as facts and selected examples of previous NPM inspired health care reforms since prior experiments were to follow (Health and Social Department Social, <http://odin.dep.no/hod/>). These actants were then associated with the new organizational framework (the Health Enterprise model and the Health Enterprise Act), which was linked to the concepts of responsibility and efficiency. As such, the new framework would almost naturally be considered as the right solution to the Norwegian health care problems and would help to convince reluctant actors to support the Labour Party's vision of a radical change within the



sector.

However, absent actants are important too. The rhetoric would have been weakened by mentioning previous failures or unsolved issues. Though similar NPM inspired health care reforms were referred to, their current status, which was not unconditionally successful, was neither mentioned nor debated. Recent developments of NPM experiments with a negative outcome were omitted. For example, in England (1997), the problems encountered with an orientation towards market mechanisms within health care had actually resulted in a change of government. Furthermore, the background material of the 2002 Norwegian health care reform also lacked concrete references supporting the view about the alleged benefits of accrual accounting regarding increasing transparency and therefore improved efficiency (Ot. Prop. 66, 2001). This lack of evidence is confirmed by previous accounting research (Carlin, 2005).

The analysis of the social and political processes is in accordance with the ANT concepts of translation, network and actants. The rhetoric used elements (seen as actants) imported from other settings such as the private sector or other countries. These elements were incorporated to the rhetoric and linked to the desired change (the new organizational framework). The translation process was a gradual process, made of movements across time and space until controversies and resistance were contained and the network was strong enough to trigger the change according to the dominant actor's view. This was across time and space because old elements were selected (prior health care reforms from the early 1990s) while recent ones were excluded (status of the reforms ten years later). Time became a flexible concept (Murdoch, 1998). This was also the case for accrual accounting. Accrual accounting was left in the dark, hidden as a reference to an accounting law in a chapter of the Health Enterprise Act, which is the law regulating the Health Enterprise model. This was because the time race allowed no time to elaborate solutions for the accounting challenges the implementation of the act would incur, such as the valuation of hospitals' assets. The selection of actants was done to fit the rhetoric of the dominant actor so that only "appropriate" elements in association with representative actors were incorporated within the network, which led towards a change with the desired outcomes.

## Conclusion

The aim of the empirical study was to describe and analyse the social and political processes of the 2002 Norwegian health care reform, to find out how accrual accounting came into the Norwegian public sector setting. As such, the study explored the following research question using the ANT framework: **How was accrual accounting introduced into the Norwegian health care setting?**



The findings of the study can be summarized in two main findings.

### **Complexity of translation processes**

The first finding of the study is about the complexity of translation processes.

The complexity is illustrated with the concept of black box. The initiator of the change (the Labour Party) used cunning strategies to enroll powerful allies and avoid controversies in order to trigger the change within the desired schedule, since the reform had to be passed before the forthcoming general election (fall 2001). The Labour party relied on two black boxing strategies. The first strategy was to use a rhetoric connecting together known black boxes, such as “*increasing costs*” and “*waiting lists*”, which were facts that were taken-for-granted, with new black boxes such as “*responsibility*” or “*central government’s ownership*” or “*Health Enterprise model*”. The idea was to create links between the known problems encountered in the management of the Norwegian health care sector with a potential solution. The solution, that is the 2002 Health Care reform with a new organizational framework called “Health Enterprise”, was presented by the network builders (the Minister of Health and Care Services and the Labour Party). By accepting these taken-for-granted facts, political actors would also be convinced that it was in their interests to accept the solution at hand since time was short.

The second strategy was to highlight some components of the reform, while black boxing other components that might have created controversies or delays. For example, the new Health Enterprise’s organizational model, even if it caused concern about employees’ rights, offered less practical challenges than the introduction of accrual accounting. This was because a similar organizational model to the Health Enterprise model (based on county’s ownership) had already been passed (Ot. Prop. No 25, 1999-2000). On the other hand, accrual accounting, as the private sector’s accounting framework, had not been previously introduced into the Norwegian public sector setting. As such, accrual accounting’s adoption could launch endless technical controversies, such as the valuation of hospitals’ assets, controversies that could delay or even threaten the enactment of the whole reform. For that reason, accrual accounting was kept as a hidden black box, even if the Labour Party’s rhetoric had criticized the current cash accounting framework and argued for the need of visualizing all hospital costs (The Minister of Health and Care Services, speech, 2001, [www. regjeringen. no /nb/dokumentarkiv/Regjeringen-Stoltenberg-I](http://www.regjeringen.no/nb/dokumentarkiv/Regjeringen-Stoltenberg-I)).

The “accrual accounting black box” was hidden as a reference to an accounting law (Chapter 11, § 43) within the black box of the “Health Enterprise Act”. The Health Enterprise Act was the legal document regulating the “Health Enterprise model”. Accrual accounting was merely a hidden mechanism within a complicated black box called the “Health Enterprise model”. The Labour Party managed to keep the accrual accounting’s black box closed during the political process so that the party kept its power position long enough to pass the reform within the time schedule.

According to Callon (1998), a lack of controversies is also described as a cold situation. A cold situation helped to temporarily stabilize the process and the possible controversies (also called hot situations) could be postponed to the time when the accrual accounting black box was opened in order to be implemented within the new setting (Latour, 1987, Callon, 1998).

### **The contextuality of Power**

The second finding is about the relationship between power and change processes' outcomes. The study's finding especially highlights the fact that power is contextual. Power has to be obtained through carefully constructed associations of actors and actants (Latour, 1986). This is illustrated through the concepts of translation, actor – network and actants.

The Labour Party, in particular the Minister of Health and Care Services built a network intertwining human and nonhuman elements to construct a path leading to the adoption of the reform (and accrual accounting). Their rhetoric was based on the NPM ideology. This was because the Minister of Health and Care Services, with his private sector background, had an unconditional faith in private sector mechanisms as a universal success recipe for running businesses regardless of the context. He expressed the following early on: *“The running of hospitals will be organized as legal subjects according to the “Companies Act”* (“Drammens Tidende”, 05.12.2000). However, he had actually to take into account the Norwegian context so that the Labour party could be in a power position until the reform was passed.

Up to the reform, Norway had been a reluctant reformer in the public sector, especially health care. Even if at the end of the 1990s, private sector mechanisms such as Activity-Based Financing had been introduced, these mechanisms had been translated into the public sector health care setting. For example, unlike market mechanisms, central government controlled and set the premises for the level of activity as well as the funding rate. The 2002 Norwegian health care reform was perceived as radical and the Labour Party had to transform and adapt the reform's content to initiate a change, departing from the Norwegian tradition of reform.

As such, the adoption of the 2002 Norwegian health care reform (and of accrual accounting) was an outcome of successive translation processes. The new organizational model, which was the foundation of the reform, was gradually transformed so that one managed to enroll as many allies as possible by adapting the model to the public sector setting. For example, the name of the model was changed from company to enterprise in order to tone down the association with private companies. Later on, a “no bankruptcy” clause was added to reassure possible opponents to the model (and to the reform) that public sector values would be protected. However, these changes were minor because the Labour Party had enrolled in its actor- network enough allies from other political parties to secure its power position.

Furthermore, the study places the focus on the role of nonhuman elements (actants) and their influence on the outcomes. Actants, such as previous central government reports about the necessity of changing the structure of the health care sector or previous similar NPM-inspired reforms or supportive answers from the Consultative round, enabled human actors to construct a powerful network leading to the desired outcomes for the Labour Party.

In the light of the above findings, the ANT framework has proven to be relevant for studying an accounting change process within a public sector setting. The relevance of the ANT framework in emphasizing the importance of the context (the social) in which the change (or the innovation) is enacted was confirmed by the previous public sector empirical accounting studies (Skærbæk 2009; Skærbæk et al., 2007; Gendron et al., 2007), especially health care (Lowe, 2001; Lowe, 2000; Chua, 1995; Lawrence et al., 1994; Preston et al., 1992). ANT focuses on power issues during these socio-technical processes, emphasizing the role and the use of nonhuman elements in relation to human elements to construct and sustain networks that have to be stable long enough to lead to the change outcomes desired. As such, these types of studies may provide new insight into NPM reforms and their sometimes unexpected outcomes. In particular, the findings confirmed the links between the use of the black box concept and the study of power (Skærbæk et al., 2009; Skærbæk et al., 2004; Lowe 2001; Lowe, 2000; Chua, 1995, Lawrence et al., 1994 and Preston et al., 1992). However, contrary to Skærbæk et al.'s study (2004), where the black box of investment calculations had to be opened due to the loss of political support during the strategy process; here the black box of accrual accounting remained closed due to the strength of the political alliances constructed during the translation process of reforming Norwegian health care.

For future research it would be interesting to study the implementation process of the 2002 Norwegian health care reform, in particular how the black box of accrual accounting was opened and translated into the new setting. The following questions are particularly of interest:

What will be the outcome of accrual accounting's implementation into the Norwegian health care setting, at the norm level? Will the new accounting norms be as radical as the accounting change itself? Or will accrual accounting's translation reflect the dualities of the 2002 Norwegian health care reform objectives of both controlling at a distance and improving local decision-making ?

Which actors will participate and influence the implementation process of accrual accounting? Will central government steer the translation according to its goals and interests and by that perpetuate the Norwegian tradition of reform? Or will other concerned groups (such as accounting experts, health care leaders) interfere during the translation process to try to influence the outcomes?

## Essay 3: Translating private sector accounting norms into the Norwegian health care setting

### **Abstract**

With the 2002 Norwegian health care reform, public hospitals were reorganized into legal entities, called Health Enterprises. The consequence of the new organizational framework was the introduction of accrual accounting. The aim of the empirical study is to describe and analyze the implementation process of accrual accounting into Norwegian health care in order to provide explanations for the various outcomes of NPM-inspired accounting reforms. The study focuses on the following research question: **How are private sector accounting norms translated into public sector health care accounting norms?** Actor Network Theory (ANT) is the theoretical framework since the study highlights the role and influence of the different actor-networks during the translation process, which led to the new national health care accounting norms. During the adoption process of the 2002 Norwegian health care reform, the Minister of Health and Care Services promoted the benefits of introducing accrual accounting within the Norwegian health care by de-contextualizing it. One of the findings was that this de-contextualization created problems and complexity during the translation process. As a consequence, the process was characterised by a power struggle between the actors involved, which conditioned the outcomes. The second finding was the role of financial statements as boundary objects. The contribution of this study is to provide explanations to the various and sometimes unexpected outcomes of NPM-inspired accounting reforms by focusing on power issues. ANT helps to explain how a radical accounting innovation (accrual accounting) was successfully implemented at the norm level in a country known as a slow and reluctant reformer (Bleiklie, Høstaker and Vabø, 2000; Mellempvik and Pettersen, 1998).

## Introduction

Norway has a tradition of being “*a slow reformer*” regarding changes within the management of the public sector (Bleiklie et al., 2000, p.139). Norway has been reluctant to follow international trends and practices particularly within public sector accounting (Mellempvik et al., 1998). As such, the 2002 Norwegian health care reform shows a radical change in the Norwegian tradition of reform because it introduced accrual accounting, which is the private sector’s accounting framework. With accrual accounting’s introduction into the public sector setting, Norway follows the path of radical reformers such as Australia. Accrual accounting as an accounting innovation is a consequence of structural and organizational changes within the Norwegian health care sector. These were structural because hospitals’ ownership was transferred from the counties to the central government (CG). The changes were organizational because hospitals were reorganized into legal subjects, called Health Enterprises (HE). The Health Enterprise model assimilates hospitals as business enterprises; as such, they have to comply with the Norwegian Accounting Act used by the private sector.

Previous accounting studies (Skærbæk, 2009; Busco, Quattrone and Riccaboni, 2007; Gendron, Cooper and Townley, 2007; Skærbæk and Thorbjørnsen, 2007; Lowe, 2001; Quattrone and Hopper, 2001; Burns and Scapens, 2000; Lowe, 2000; Chua, 1995; Lawrence, Manzurul and Lowe, 1994; Preston, Cooper and Coombs, 1992) have been concerned with accounting change processes and their outcomes. Burns et al. (2000) pointed out that there is a lack of research about change processes and the emergence of new management accounting systems and practices. In particular, Busco et al. (2007) were concerned with the balance between the role of *individuals* (human and /or nonhuman elements) and *structure* (organizational, contextual, political factors), which is the “who and what” that initiates accounting changes. Moreover, they were also concerned with the “how and why”, that is the implementation and the outcomes of accounting changes processes. According to them, these outcomes are the result of a translation where “*the aim, nature and goal of the management accounting innovations are constantly shifted, mediated and renegotiated*” (Busco et al., 2007 p.128).

Within the Norwegian health care sector, political actors (the “who”) passed the 2002 health care reform resulting in a structural change (the “what”). Accrual accounting’s introduction was an outcome of this structural change. The health care sector is a good illustration of a public sector setting that has undergone accounting change processes based on the NPM ideology. However, these accounting change processes have shown a wide variety in scope and their outcomes have sometimes been unexpected. Therefore, the aim of the study is to describe and analyze the implementation process of accrual accounting into Norwegian health care in order to provide explanations to the various outcomes of NPM-inspired accounting reforms. The study will especially answer the following research question: **How are private sector accounting norms translated into public sector health care accounting norms?**

As such, the implementation process of accrual accounting is narrowed to the study of the translation of private sector accounting norms into new national health care accounting norms. The private sector accounting norms are represented by the Norwegian Accounting Act and its related standards, since it is the accounting act mentioned in the 2002 Norwegian health care reform. Although the study is about process (the “how”), it focuses on the “who” since it highlights the role and influence of different actors (human and nonhuman) involved in the translation. The theoretical framework is the Actor Network Theory (ANT) because ANT

links actor interactions and the power balance between them to the outcomes of change processes. Especially, ANT enables us to emphasize the fact that accounting is not a neutral representation of an organizational entity measured in economic terms, but rather an outcome of specific choices of methods and as such subject to translations from organizational actors with specific goals and interests.

Through ANT or “the *sociology of translation*” (Robson, 1991, p.550), this study shows how the central agency (CG) tried to channel the translation process towards the fulfillment of its goals and interests. In particular, the study shows how the CG used and transformed accounting devices to fit its budget rationale rhetoric in order to enroll and convince other participants. Moreover, the study helps to visualize how a new accounting knowledge was constituted within the Norwegian health care as an outcome of complex processes. The complexity is contingent on the controversies that arose between CG and concerned groups during the translation process of private sector’s norms. This view is supported by Quattrone et al. (2001, p.430) who argued that: “*accounting knowledge needs to be treated as a co-production of different points of view across multiple organizational worlds, times and spaces*”.

According to Czarniawska and Joerges (1996), the link between a specific problem and the features of an innovation is constructed, negotiated or even forced during a translation process. In this study, accrual accounting is the innovation imported from the private sector and translated into the Norwegian health care setting in order to improve its efficiency. Lægreid, Opedal and Stigen argued the following: “*NPM recipes have generally been presented as universal panaceas and the historical-institutional context of the different countries...has normally not been taken into consideration*” (2005, p.1029). As a consequence, this study highlights the importance of the context in which NPM reforms are implemented. Especially, the study shows how private sector accounting norms were translated into the Norwegian health care setting and how the specificities of the context influenced the outcomes.

Furthermore, this study increases the knowledge about the implementation of private sector mechanisms within a public sector setting, especially health care. Although there are previous

empirical accounting studies using ANT within the public sector setting (Skærbæk, 2009; Gendron et al., 2007; Skærbæk et al., 2007) and health care in particular (Lowe, 2001; Lowe, 2000; Chua, 1995; Lawrence et al., 1994; Preston et al., 1992), they have mainly dealt with new accounting practices. Yet, there is a need for accounting studies at the norm level since norms constitute the basis for accounting practice. Moreover, norms determine the content of financial statements, which are a key input in the decision-making process.

Additionally, the study provides complementary insight into the study of Moll, Humphrey and Chow (2007) about accounting innovations within the public sector. The Moll et al. study (2007) dealt with issues of policy transfer in the accounting field. It illustrates how some strong actors can affect the process of adopting new accounting policies and the policy outcomes. This study goes one step further showing that, not only at the adoption phase of an accounting innovation but also during its implementation, strong actors can influence the outcomes of the process. Christiaens and Rommel (2008) reviewed and classified governmental accounting reform studies into three different types. One of the categories is empirical studies about the implementation of accounting reforms. The authors found that within this category the design and the implementation of accrual accounting diverged in an uncontrolled way due to different factors (Christiaens et al., 2008). This study contributes a better understanding of the reasons for such a divergence by describing and analyzing the implementation process itself, emphasizing the importance of the power struggle between different networks of actors to influence and control the outcomes.

The remainder of the essay is presented in five sections. The next section presents an overview about international and national variations in accounting norms. It introduces the norm concept and shows how translations of accrual accounting vary across and within countries. The section also includes an overview of previous Norwegian accounting studies where private sector mechanisms were implemented into Norwegian health care. The second section describes the theoretical framework (ANT) through which the empirical data are structured and analyzed. The research method section follows. The fourth section describes and analyses how private sector's norms were translated into the Norwegian health care setting. It is followed by a conclusion summarizing the findings of the empirical study.

## Overview about international and national accounting norms

This section clarifies the concept of norms used in the study. For Olson and Mellemvik accounting norms are "*how accounting should be practiced*", while accounting practice is "*how financial statements are prepared according to the norms*" (Olson and Mellemvik, 1996, p.11). Gårseth-Nesbakk (2007) specified that accounting norms are based on accounting theory that is a conceptual framework, and recommendations. The recommendations can be mandatory, such as laws and standards, or voluntary, derived from

the conceptual framework. This study focuses on accounting norms as “mandatory recommendations” since the Health Enterprise Act (Chapter 11), which is the legal document regulating the 2002 Norwegian health care reform, specified that hospitals have to comply with the Norwegian Accounting Act used in the private sector.

The implementation process of accrual accounting into the Norwegian health care setting is therefore seen as a translation process of the existing norm system represented by the Norwegian Accounting Act. The new national health care accounting norms would then provide guidance for the reporting of hospital financial information. As such, the study shows similarities with a standard setting process since standards are mandatory recommendations as well. Bergervärn, Mellemvik and Olson (1995) emphasized the central role of rhetoric since they stated that the articulation of the rhetoric of accounting is one of the main activities of the norm setting process. Young (2003) said that the construction of accounting standards is not a straightforward process since different interpretations lead to different outcomes. For her, rhetoric also plays a key role in the process: *“Each standard is written by members of the Financial Accounting Standards Board (FASB). As such, the text is shaped by a particular point of view about the significance of various events and activities that occurred during the standard setting process and it attempts to persuade the readers to accept this perspective”* (Young, 2003, p. 622).

This empirical study supports the views of Young (2003) and Bergervärn et al. (1995) about the importance of rhetoric during accounting change processes. However, it goes further because it shows how a strong rhetoric is contingent on constructing lasting networks made up of heterogeneous elements (human and nonhuman).

The next section introduces the New Public Management (NPM) concept, which has given rise to many reforms introducing accrual accounting within a public sector setting. The section also briefly defines differences between accounting frameworks. Then, the section presents examples of accrual accounting variations at the norm level both between and within countries in order to stress the relevance of studies that provide new sources of explanations to such various outcomes.

## **International Variations of accounting norms based on Accrual Accounting**

The New Public Management (NPM) trend was launched by the United Kingdom in the eighties (Ferlie, Ashburner, Fitzgerald and Pettigrew, 1996). NPM is an ideological thought system promoting the introduction of new accountability mechanisms imported from the private sector in order to improve the public sector’s efficiency (Pollitt, 1990). A main component of the NPM movement is *“the seemingly endless list of accounting based techniques that are being drawn on in the pursuit of reform”* (Olson, Guthrie and Humphrey, 1998, p.18). Such accounting-based techniques are implemented as the core of NPM reforms.



They use quantification as a means of demonstrating achievements such as efficiency gains and as a means of holding responsible persons accountable (Lapsley, 1999).

Traditionally, cash-basis accounting, which determines expenses and revenues based on payment time, has been the public sector's accounting framework. While strict cash-basis follows the cash flow exactly, modified cash-basis includes some elements from accrual-basis accounting such as inventory and property capitalization. Accrual accounting, the private sector's accounting framework, recognizes economic events at the time in which the transaction occurs rather than when payment is made (or received). The elements recognised under accrual accounting are assets, liabilities, revenues, and expenses (International Public Sector Accounting Standards (IPSAS), research report 2004). In the public sector, the purpose of financial accounting is to give information about expenses, showing how they match the budget allocations voted for by politicians and these are kept within matching revenues. In the private sector, the purpose is to provide financial information about the performance of an enterprise by providing measures of earnings and its components (§43 FASB Statement of financial accounting concepts No. 1, 1978). To determine the profit during the accounting period, expenses (which are recognized when assets are consumed or liabilities created) will be matched with revenues (matching principle).

The traditional cash-based accounting model has been considered inadequate to provide the financial information necessary for good resource management. For that reason, the public sector has moved towards more accrual-based accounting models such as modified cash accounting to full accrual accounting. However, many countries combine cash accounting at the macro level with accrual accounting within limited decentralized micro levels (Olson, et al., 1998). Such models, inspired by the NPM trend, introduce non-cash elements (such as depreciation costs) in order to provide more complete management information (Kober, Lee and Ng, 2007). NPM-inspired accounting implementations have been challenging and complex experiences due to the disparities between the private and public sectors' accounting rationales. The variety of scope is illustrated by the following examples of accrual accounting implementations from radical countries to more cautious ones.

Olson et al. (1998) identified five main categories of what they called "New Public Financial Management"(NPFM) reforms. The first category includes changes in financial reporting systems, and promotes the use of accrual accounting. As such accrual accounting, which is the private sector's guiding accounting principle, turned out to be the core technology of NPFM reforms (Olson, Humphrey and Guthrie, 2007). For Ellwood and Wynne (2005), accrual accounting became the natural progression of public sector accounting. This section, mainly based on Olson et al.'s 2007 study, focuses on this category of reforms.

The following examples show that accounting changes, although NPM-inspired, have not necessarily followed a consistent path. Even if the overall trend is from cash to accrual accounting, there are numerous variations, between and within countries, regarding the scope and level of implementation. These differences may be imputed to various contextual factors, such as culture or structure (Pina and Torres, 2003), the nature of the relationships between central and local authorities (Pettersen, 2004), or other contextual factors. Even if Olson et al.'s 2007 study was limited to only three countries (Australia, the United Kingdom and Sweden), the study is representative since the chosen countries have different characteristics in terms of political parties in power, population size, and governmental consumption expenditures (Olson et al., 2007). Although all three countries have been followers of the NPFM trend, they illustrate the variety of accrual accounting's translations that lead to different norm systems.

Australia stands out as it is the only country with one norm system throughout sectors or company types (Olson et al., 2007, Pina et al., 2003). The norm system is based on the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB). It was in 2000 that the Australian Accounting Standards Board (AASB) first decided that the IFRS standards would be applied for all types of companies throughout the private sector, before it was extended to the public sector in 2005 (Olson et al., 2007).

Since 2000, the United Kingdom has moved from different cash-based accounting models (in both local and central governments) to accrual accounting in order to be able to consolidate at a national level all financial reports within the public sector. Even though the UK has adopted accrual accounting for the whole public sector, the UK uses "*markedly different accounting conventions*" (Elwood, 2001, p.224), highlighting the need for adaptations in order to fit the specificities of the public sector context. Lapsley and Pallot (2000, p.36) called the accounting practice for the UK local government, which was adapted from private sector, an "*accounting mutation*". In contrast with Australia, the norm system includes both local and national accounting standards, even though the influence of IFRS has been growing stronger since 2004 (Hodges and Mellett, 2006). The health care sector, although a part of the public sector, has progressively adopted full accrual accounting since 1991. However, it follows specific accounting regulations, which for example prohibit the re-evaluation of assets (Olson et al., 2007; Elwood, 2001). Within the private sector, IFRS is used for listed companies, while non-listed companies can choose to comply with national standards or IFRS (Olson et al., 2007; Hodges et al., 2006).

Finally, the Olson et al. 2007 study described Sweden, which has followed the international development by introducing accrual-based accounting norms into the public sector. Even if local and central government standard setters (the "Council for Local Government Accounting" and the "Swedish Financial Management Authority") have closely followed

IFRS and IPSAS, they issue their own national accounting standards similar to the United Kingdom. Within the private sector, Sweden's norm system follows the United Kingdom norm system with the use of IFRS for listed companies and Swedish national standards for non-listed companies (Olson et al., 2007; Olson and Sahlin Andersson, 2005). The Swedish experiment shows that although Sweden closely follows the most progressive countries such as Australia, it chooses to use country-specific accounting standards like the United Kingdom (Olson et al., 2007).

The above section illustrated the wide variety of accrual accounting translations. As such, this study contributes to accounting research by relating translation process outcomes to the social context in which they are enacted. However, a short description of the existing Norwegian norm system in the public and private sectors is necessary to understand the technical context in which the empirical part of the study takes place.

### **National Variation of Accounting Norms in Norway**

Recent changes in accounting norms have not only been driven by the NPM trend. For example, Norway as an associated member of the European Union (EU) has to follow EU regulations. Therefore, since 2005 the reporting of the consolidated accounts for Norwegian listed companies has to comply with IFRS. However, it is not mandatory for other companies. They can choose to comply either with IFRS or with the Norwegian national standards.

The national Norwegian norm system presents a contrast to the dominating view within Western private sector norm systems. The Norwegian norm system is called the "Revenue and Expense" view (R/E) or "Historical Cost Model" because it focuses on the performance of the reporting entity. On the other hand, the International Accounting Standards Board's (IASB) framework, on which the IFRS is derived, is based on a different accounting model called "the Asset and Liability" view (A/L) or "Value-Based Model". This model focuses on the reporting entity's wealth, as reflected in its economic resources (assets) and its obligations to transfer those resources (liabilities) ([www.fasb.org/fasac/conceptual-framework](http://www.fasb.org/fasac/conceptual-framework)). Following the R/E view, the purpose of the Norwegian accounting model is "*the best possible measurement of earnings in the accounting period*" (Tellefsen and Langli, 2005, Chapter 5). Though the focus of the Norwegian accounting model is on the measurement of earnings as "revenues minus expenses", there is not any specific rule in the Norwegian Accounting Act ("Regnskapsloven" or RL) to directly measure revenues and expenses. As a consequence and similar to the A/L view, the definitions of revenues (and expenses) are based on the definitions of assets and liabilities.

Within the Norwegian public sector, local and central government norm systems are based on the cash principle to a large extent. Local government (LG) accounting (counties and municipalities) complies with an Act called "Kommuneloven" (KL), which includes specific accounting regulations (FOR 2000-12-15). It follows the modified cash principle and

Generally Accepted Local Government Accounting Principles (GALGAP). The LG accounting model is a complex model because it mixes elements from public sector accounting with elements from private sector accounting, such as the valuation rules for the balance sheet (FOR 2000, §8). The modified cash principle focuses on the time of delivery rather than the time of payment and accrued elements are therefore also included in the financial statements. Most of these accruals (with the exception of fixed assets capitalization) appear at the end of the accounting period such as short-term receivables or debts (Mauland and Aastvedt, 2005).

The central government (CG) accounting model is based on cash accounting since it is payment time that determines the recognition of the elements in the financial statements. However, CG accounting is a complex model and though it mainly follows cash-flows, it is also referred to as a modified cash accounting model with numerous guidelines and circulars as well as several possibilities for exceptions (Gårseth-Nesbakk, 2007; Mauland and Mellemvik, 2004). Contrary to the LG accounting model (with KL) and the private sector accounting model (with RL), there is no accounting act regulating CG's accounting or budgeting. The standards and accounting regulations are derived from the National Constitution (§75 a-c) (Bourmistrov and Mellemvik, 2005).

As a summary of this section, Appendix 1 shows the three accounting models in Norway (p.32). The IFRS are not included since they are only mandatory for the reporting of consolidated accounts for listed companies. The overview shows that the Norwegian public sector, prior to the 2002 Norwegian health care reform and contrary to the above described countries (Australia, the United Kingdom and Sweden), was still unwilling to follow an NPM trend launched more than 20 years ago since it was relying heavily on the cash accounting framework. Furthermore, Appendix 2 shows a recapitulation of the characteristics of the norm systems of the four countries presented in this section (page 33).

## **The Norwegian Health Care Reform and Previous Studies about the Implementation of Private Sector Mechanisms within Norwegian Health Care**

In this section, the main features of the 2002 Norwegian health care reform are described before presenting a review of previous studies within Norwegian health care. The review is classified according to different NPFM reforms' components (Olson et al., 1998).

In June 2001, the Norwegian parliament passed the Health Enterprise Act (Ot. Prop. 66, 2001) and the 2002 Norwegian health care reform was adopted. Norwegian health care includes

somatic and psychiatric health care and the ambulance service. The reform was implemented on January 1, 2002.

With the reform, the central government took over health care, after 30 years under county ownership. The Ministry of Health and Care Services is the owner of the hospitals with an ownership department within the ministry as the location of administrative responsibility (Lægneid et al., 2005). Five regional health enterprises (RHEs) have been established under the central government administration with thirty-five local health enterprises (HEs) under the RHEs. In 2007, two RHEs merged into one covering the South and Eastern parts of Norway. The RHEs are the formal owners of all public providers of health care within a region. They have no hospital service functions of their own, since their main function is to be regional administrative entities. The RHEs ensure both the roles of purchaser and provider (Lægneid et al., 2005). Even if the new organizational structure still maintains two hierarchical relationships, state-region and region-hospital, the regional level is now reduced from nineteen counties to four administrative entities (Hagen and Kaarbøe, 2006). Furthermore, the political power is now centralised through the central government's hands, even though members of political parties have been appointed to the HE boards since 2006.

The purpose of the 2002 health care reform, which follows the NPFM trend, is to improve health care efficiency through an organizational change. The reform has two main components:

- Better governmental control since central government now gathers both financing and ownership of the hospitals.
- Higher autonomy at the provider level because hospitals are organized into Health Enterprises (HEs). HEs are autonomous legal entities and as such are no longer an integral part of the public administration. They have their own responsibilities as employers and are accountable for all costs (included capital costs). However, they cannot go into voluntary liquidation, because the central government, as the sole owner, has unlimited responsibility ([www.odin.dep.no/hod](http://www.odin.dep.no/hod)).

AICPA (1974) stated that the main intended functions of accounting are the following: control (accountability) and decision-making. The duality of these functions is reflected in the 2002 health care reform's two components. The first component of the 2002 health care reform is based on increased centralization at the national level and supports the control function over growing health expenditures. The second component of the reform helps to improve decision-making at the local and operational level. It includes more comprehensive management tools such as accrual accounting to help hospitals managers' decision-making.

The Health Enterprise Act (Ot. Prop.66, 2001) specifies that the reporting of HEs' financial information must follow the private sector's accounting norm system. However, the 2002

health care reform took place three years before the opening of IFRS (2005) to Norwegian companies. As such, the Health Enterprise Act only refers to the national norm system based on the Norwegian Accounting Act and its related standards.

Since the mid 1990s, the Norwegian health care sector has been the playground for the introduction of private sector mechanisms inspired by the NPM ideology. Macro-level studies have previously described and analyzed the 2002 Norwegian health care reform's characteristics within a political and historical perspective (Byrkjeflot 2005, 2004; Byrkjeflot and Neby, 2004; Møller Pedersen, 2002; Hagen et al., 2006; Lægreid et al., 2005; Mosca, 2006; Magnussen, Hagen and Karbøe, 2006). Other studies have focused on the implementation of performance measurement mechanisms in order to increase customer/patient empowerment (Vrangbæk, Østergren, Birk and Winblad, 2007; Østergren and Vrangbæk, 2006; Østergren, 2006,) or on the introduction of new performance management and measurement systems in order to improve efficiency (Magnussen and Nyland, 2008; Pettersen and Nyland, 2006; Christensen, Lægreid and Stigen, 2004; Bjørn, Hagen, Iversen and Magnussen, 2003; Kjerstad, 2003; Pettersen 2004, 2001(3), 1999). Finally, there are management accounting studies about the implementation of budget restrictions (Nyland, Pettersen and Østergren, 2009; Nyland and Pettersen, 2004; Modell, 2001; Pettersen, 1995).

Most of these studies illustrate the variety of translations of private sector accounting practices within a specific context that is Norwegian health care. They focus on the relationship between the actors involved who have different interests and rationales and outcomes. As such, this section confirms the importance of the role of actors and the dynamic between them in translation processes. It especially highlights how the power struggle between different networks of actors may condition the outcomes of an innovation.

## Theoretical framework: Actor Network Theory (ANT)

This section briefly introduces ANT's main concepts since the empirical study is conceptually grounded on ANT (Callon, 1998, 1987, 1986; Latour, 2005, 1999, 1986; Law, 1997, 1986). The overall research question of the study is: How are private sector accounting norms translated into public sector health care accounting norms? As such, the ANT concept of translation is a key concept to answer for the research question.

### **The concepts of translation, framing and overflow**

For Rottenburg (1996) "*the constructivist sociology of translation*", advocated by Callon and Latour (1981) and Latour (1986), can help to understand "*appropriation and contextualization processes*" (Rottenburg, 1996, p. 214). For him, the translation concept can

be assimilated as transformation processes during which power issues play a central role. Furthermore, translation means that an actor introduces an external thing (idea or artefact) within a new context, giving it a different function or meaning in accordance with his (her) own goals (Rottenburg, 1996). Sahlin Andersson follows this idea of translation as transformation. For her, since the new idea or artefact is introduced into the new setting “*some specific local prerequisites are de-emphasized or omitted*” (Sahlin Andersson, 1996, p. 86). She also argued that the context of the local setting might restrict the translation (Sahlin Andersson, 1996).

In this study, accrual accounting’s implementation into the Norwegian health care setting is seen as a translation process. In this process, central government (CG), represented by the Ministry of Health and Care Services, is defined as the central agency that is in charge of the implementation. Accrual accounting is assimilated into an innovation since it is introduced as a whole framework for the first time within the Norwegian public sector setting. However, accrual accounting’s implementation is limited to a part of the Norwegian public sector that is the health care sector, while at the macro level, the central agency (CG) still operates within a cash accounting context. As such, accrual accounting’s translation is conditioned by the contingencies of the central agency, such as yearly budget allocations and limited allocation of resources. The consequence is that the central agency tries to carry out the implementation of accrual accounting by focusing on the centralized control component of the 2002 health care reform instead of highlighting the characteristics of the accrual accounting innovation, which is to show all hospital costs in order to improve local decision-making.

For Robson, ANT focuses on the relationships between accounting and its social context through the problematization concept, which is a crucial phase of translation (Robson, 1991). At the end of this phase, the aims and goals of participants are translated into rhetoric where specific accounting techniques are chosen or constructed to represent a reality that fits a specific purpose (Robson, 1991). Furthermore, translation is about creating a protected space within which the process will take place with few disturbances from the outside world. The ANT concept of “framing” is about creating boundaries made up of various devices within which actor interactions occur (Callon, 1998). If actors contest these boundaries, they bring new elements from the outside worlds, which are conceptualized as “overflows”. Overflows may disturb and influence the course of the translation if they are not controlled.

In this study, the central agency translates the accrual accounting framework into accounting methods that fit its purpose. However, other actors with a different view keep interfering in the CG’s translation, which creates overflows that have to be contained. As a consequence, successive accounting methods are presented by the central agency, which keeps transforming them to convince the reluctant actors and control the process, yet still within its own rationale of budget contingencies.

## **The concepts of network, actor, actants and boundary objects**

Within ANT, the concept of “network” draws attention to the dynamics of heterogeneous associations of human and nonhuman elements linked temporarily together during change processes (Callon, 1987). Their reciprocal influence and transformation during the translation process often lead to unpredicted outcomes. Networks connect people and things to establish new patterns that can explain changes and new power balances (Callas and Smircich, 1999). As such, the elements that constitute an actor network are carefully selected according to the story one wishes to tell.

The term “actor” is an association of human and non-human elements open to re-definition and transformation. However, in the ANT literature, the word “actant” is often used when describing nonhuman elements. The actant concept is defined as a nonhuman element that is made the origin of action (Latour, 1991). Actants are therefore often assimilated as actors since within ANT; nonhuman and human elements are equally important forces that contribute to changes and evolution in society.

The devices brought into a translation process can also be defined as “boundary objects” as they represent a link with the outside world. Leigh Star and Griesemer (1989) defined boundary objects as such “... *Boundary objects have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation*” (Leigh Star et al., 1989, p. 393). According to Briers and Chua (2001), boundary objects enable the connection together of organizational members, even if these actors have diverse goals and interests. In this study, financial statements are assimilated as boundary objects since actors with different rationales can identify them with the representation of an entity in economic terms. However, contrary to other ANT studies, the findings show that these boundary objects fail to construct bridges between different actors’ worlds (Emsley, 2008, Åkerman and Peltola, 2006, Briers et al., 2001; Leigh Star et al., 1989).

## **The concepts of black box and Obligatory Point of Passage (OPP)**

The concept of black box is associated with attempts to control and stabilize translation processes. According to Callon’s early work (1981), a black box is a complicated device that offers solutions to problematic issues, without revealing its mechanisms in order to maintain control over the situation. Therefore, the more one manages to black box an innovation the easier its adoption and diffusion, since one will take it for granted without questioning its content. Another ANT concept associated with control is the concept of Obligatory Point of Passage (OPP). OPP can be defined as a channelling device, that is either human or nonhuman, through which the path of the translation process is directed so that specific solutions are chosen that fit the main actor’s goals and interests.



## **ANT and control at a distance**

The concept of translation illustrates a dual aspect of change processes. As described above, translation is related to a transformation since an innovation is modified when it is implemented in a new setting. However, translation also represents a displacement (a movement) from one context to another (Robson, 1991). As such, translation and the other ANT concepts of network, actors and actants (such as accounting inscriptions) help to draw attention to the issues of control at a distance and power. Through the constitution of networks made of accounting inscriptions and human elements, one becomes able to influence different contexts at the same time (Robson, 1991). In this study, the CG implemented accrual accounting only in one sector (health care) and not for the rest of the whole public sector. As a consequence, the CG's accounting solutions become influenced by the need to control so that the solutions would comply with national requirements. Furthermore, ANT highlights the role of knowledge objects (such as accounting devices) to construct and exert this control at a distance.

The Actor Network Theory (ANT) is therefore a relevant framework to study and analyze the dynamic of such a translation or transformation process, dealing with complexity, technical challenges and power issues. Besides, ANT raises central issues regarding the objectivity of accounting inscriptions and the knowledge objects constituted by them. Robson (1992, 1991) encouraged subsequent research to explore associations and networks that legitimate and sustain particular forms of accounting knowledge (Mac Namara, Baxter and Chua, 2004).

## **Research Method**

This section describes the different steps of the research process to undertake and complete the empirical study. The section is divided into four parts showing the methodological choices made to answer the research question. The first part is about the relevance of ANT as a methodology for studying accounting changes seen as translation processes.

### **Choice of Methodology**

Actor Network Theory (ANT) focuses on the interactions of actors (human and nonhuman) involved in translation processes. By doing this, ANT helps to provide new sources of explanations about the outcomes of such processes. In this study, ANT is used to describe and structure events as well as to analyze and explain the underlying processes that lead to the constitution of a new knowledge within Norwegian health care. This new knowledge is the new national health care accounting norms. Furthermore, the research question of this study is similar to the one within a private sector setting (Åkerman et al., 2006); their study, using ANT, dealt with how economic calculations, based on different rationales, steer the decision-making process regarding the choice of an alternative fuel for a heating plant. This similarity confirms the relevance of ANT.

Within the private sector, Alcouffe, Berland and Levant's comparative empirical study (2008) confirmed the relevance of ANT in studying translation (or transformation) processes. The authors used ANT to explain the success or failure of the diffusion of an innovation. They argued that pioneers have to recruit allies to help diffuse the innovation (or the new idea). However, at the same time the new allies enrolled might transform the innovation into something new and different. They added that this makes the control over the allies (and the diffusion process) more difficult (Alcouffe et al., 2008). In this study, the central agency (CG) enrolled accounting professionals from the private sector (auditors) to help with the implementation of accrual accounting within the public sector's health care. However, the accounting professionals' translation collided right away with the goals and interests of the CG. This led to controversies during the whole process based on different translations, which were promoted successively by the actors involved.

Within the public sector, previous empirical studies (Skærbæk, 2009; Skærbæk and Tryggestad, 2009; Christensen and Skærbæk, 2007, Cuganesan, Boedker and Guthrie, 2007; Gendron et al., 2007; Skærbæk et al., 2007 and Skærbæk and Melander, 2004) especially within health care (Lowe, 2001; Lowe 2000; Chua, 1995; Lawrence et al., 1994 and Preston et al., 1992) supported the choice of ANT as a methodological framework to study accountability change processes in general and accounting innovations in particular.

Choosing the sociology of translation or ANT is about looking into practices (Quattrone, 2004). According to Callon, translation is about defining and attributing roles as well as "*the delineation of a scenario*" (Callon, 1986, p. 25). He added: "*It speaks for others but in its own language*" (Callon, 1986, p. 25). As such, ANT accounts by their nature fail the traditional acid test of validity issues. The focus is more on a description, which becomes an explanation, and as such contributes to research on its own premises (Latour, 1991). However almost ten years ago, Stone (2001) acknowledged the need for writing accounting stories as a lost tradition within accounting research in order to contribute to a greater understanding of the complexity of accounting practices (Stone, 2001). So this study tells a story and paraphrasing Alcouffe et al. (2008), the story can not claim to be objective and to reflect any reality other than that of its author. Consequently, the empirical method is based on a qualitative approach.

Finally, the choice of ANT as a methodology is in accordance with Callon's (1987) early study introducing the term "Actor Network". Callon's study described the failure of launching an electrical vehicle by Electricite de France (EDF) in the early 1970s. Actor Network methodology was used to describe the heterogeneous associations of animate (EDF engineers) and non-animate elements (e.g. ministries, the Renault car company, car components) as well as "*the mechanisms, through which these associations were established, transformed, or consolidated*" (Callon, 1987, p. 93). As such, ANT and its concepts help to picture and analyze complex mechanisms behind decision-making processes regarding the adoption or implementation of innovations.

The next section explains the focus on process used during the empirical study.

## **Empirical method**

Focusing on process is important since translation is assimilated as transformation (Alcouffe et al. 2008; Rottenburg, 1996; Sahlin-Andersson, 1996). A translation develops and transforms an innovation since many actors are involved – actors who may compete in order to impose their own views and secure their interests. Therefore, it is by studying the process that one can follow the dynamic and the interactions between actors and how they use various tools to build their own networks, mixing different levels across space and time in order to convince reluctant actors to adopt their views and follow a specific path leading to the desired outcomes.

According to Sunder (2005) the process of norm setting is difficult to observe or understand. Therefore, the study of the translation of accrual accounting into national health care norms provides a contribution to such processes. One can follow the national norm setting process over several years from the adoption of accrual accounting (the Health Enterprise Act (Ot. Prop. 66, 2001 dated 13.06.2001) to the tangible outcomes of its implementation, which are the current national health care accounting norms. Furthermore, this study provides an interesting contrast to Sunder's statement: "*the evolution of norms is decentralized in the extreme and even experts find it difficult to know which rules or practices are better and to predict their future direction*" (Sunder, 2005, p. 374). This is because the findings show that the translation of private sector norms within Norwegian health care is centralized in the central agency's (CG) hands even though the outcomes turn out to be the result of the determination of private sector accounting experts (auditors).

The next part of the research method's section specifies the reasons for selecting one accounting issue around which the translation process is centred.

## **Choice of Accounting Issue**

The change from modified cash to accrual accounting, which was an outcome of the 2002 Norwegian health care reform, made compulsory the preparation of a new financial statement, the Balance Sheet (BS), when reporting HE financial information. In the previous regime, hospitals did not have their own BS as hospital assets were incorporated into other county assets and not valued separately. As such, a major element in the translation of private sector norms was to decide *which method* should be used *to value the elements of the balance sheet*, especially fixed assets in order to calculate yearly depreciation costs at the HE level.

There are three arguments regarding the relevance of focusing the translation process on the valuation of fixed assets. The first argument is that depreciation costs were introduced at the HE level as a consequence of the change from modified cash to accrual accounting. Depreciations costs stand for 7% of the total costs in 2008, which is a significant part of HE total costs ([www.sintef.no/ Projectweb / Startsiden/ Samdata](http://www.sintef.no/Projectweb/Startsiden/Samdata)). The amount of depreciation costs to be imputed and how they are estimated depends on the methods chosen for the valuation of fixed assets. Therefore, different calculation methods would have a bearing on the HEs' financial performance and their level of accountability. Regarding inventories, they were already accrued under the county modified cash accounting regime. Regarding HEs' revenue, these are set through a political process following the central government budget allocations. Their measurement and recognition are not determined through market mechanisms. Their recognition and measurement were settled early in the implementation process, since it was decided that revenues should be assimilated with grants even if half of the total revenues are activity-based revenues. Therefore, revenue accounting treatment was not a problematic issue during the implementation of accrual accounting.

The second argument is that the topic (fixed asset valuation) came up repeatedly through the reading of public documents:

- In the steering documents from the CG to the RHE 2002-2008.
- In the Parliament reports and propositions (Ot. Prop. No. 56, 2004-2005)
- In the answers to the consultative round about an accounting regulation to the Health Enterprise Act (Ot. Prop. No. 66, 2001)
- In the Report of the Storting No. 3 (2006-2007) Chapter 4; Royal Proposition No. 1 (2007-2008) Budget for 2008, program 10).

Furthermore, the Ministry of Health and Care Services (CG) issued separate documents on the balance sheet valuation issue in addition to the steering documents sent to the RHEs. These documents explained how this accounting issue should be dealt with (document on the balance sheet total valuation from 09.05.2003; documents on the valuation of fixed assets from 16.02.2004 and 22.12.2004).

The third argument is based on an in-depth interview, which was conducted with an auditor from the auditing company of one of the four RHEs (Called Health Region West). The interview was made to verify the relevance of the choice of the accounting issue. As a partner of the auditing company, this auditor had a key role in the translation of private sector accounting norms within the health care setting. Answering an open question about which accounting issues had been central during the translation process, he named the selected topic (interview auditor, Bergen, and dated 31.10.2007).

The last part of the method section is about the choice of data to illustrate the implementation process of accrual accounting into the Norwegian health care setting.

## Choice of Data

The empirical data underlying this study are mostly archival data. The main part of the archival documents covers a time span stretching from July 2001 (Health Enterprise Act passed on June 13<sup>th</sup>, 2001) to 2008. The time span covers the translation process of private sector accounting norms until the controversies were finally settled (2005) and until budget allocations were adjusted to the new norms (2008).

The use of archival data is in accordance with ANT, (which is the theoretical framework of the study) which relies on texts (Callon, 1991). Furthermore, at the beginning of the implementation process of accrual accounting, I was still working as a financial manager in a hospital and I had a good knowledge of the context since I had been working within the health care sector for more than ten years. My background provided a solid base to interpret the archival data. By systematically collecting documents issued by the central agency (CG) to the RHEs, including the supporting documents mentioned as references, I was able to follow the translation process of private sector accounting norms into the Norwegian health care setting. The analysis of the documents helped to describe the chain of events and the rhetoric of the implementer (CG) throughout the process.

The archival sources were the following:

- The Health Enterprise Act (Ot. Prop. 66, 2001).
- Public documents between the CG and the RHE such as: the 2001 accounting guideline for the RHE, steering documents from the Ministry of Health and Care Services (2002-2008).
- The Accounting Regulation Proposal Ot. Prop. No. 56 (2004-2005) to the Health Enterprise Act as well as answers (37) to the consultative round concerning the accounting regulation (Ot. Prop. No. 56 (2004-2005)).
- Public documents from the Norwegian Parliament (including yearly state budgets and propositions such as Report No. 3 of the Storting (2006-2007), CG accounts for 2006, Chapter 4 Royal Proposition No. 1 (2007-2008) (Ministry of Health and Care Services: budget for 2008, program 10).
- The relevant accounting frameworks, since the involved actors based their rhetoric on different accounting rationales. These frameworks include public sector central and local accounting frameworks (cash and modified cash accounting) as well as the private sector Norwegian accounting framework (accrual accounting). The last framework includes the postulates of accounting and the qualitative characteristics of accounting information as well as the Norwegian Accounting Act (including the fundamental accounting principles) and its related accounting standards from the Norwegian Accounting Standards Board (NASB).

Additionally to the archival data, an interview was done with the abovementioned auditor at the end of 2007, confirming the relevance of the collected data.

## The translation process of private sector's accounting norms within the Norwegian health care setting (2001-2007)

As an introduction to this section, the different categories of actors and actants are described those were chosen as representative actors during the translation process of the private sector's accounting norms. These actors are the lens through which documents are structured, described, and analyzed to explain the final outcomes of the process. Political actors are the first category. They played a prominent role during the adoption of accrual accounting. Furthermore, they also strongly influenced the outcomes of the translation process of the private sector's accounting norms with the rejection of the 2004 accounting regulation proposal. However, unlike the 2001 adoption phase of accrual accounting, two new categories of actors played leading roles.

The second category of actors is central government's administrative personnel in charge of the translation of accrual accounting into Norwegian health care. In this study, "central government" is referred to as a legal person, i.e., an actor in the modern institutional order (Czarniawska et al., 1996). By doing this, central government becomes capable of cognitive action, which is "*to make comparisons and judgements and to act according to desires*" (Czarniawska et al., 1996, p.49). The Central government's actors are a small entity of actors from the Ministry of Health and Care Services. However, a close collaboration between the Ministry of Health and Care Services and the Ministry of Finance has been assumed in the study due to the technicality of the translation of private sector accounting norms. This was also assumed because the Finance Department is responsible for the consolidation, at national level, of the financial statements from all sectors. The collaboration is not directly traced in the documents studied since the archival documents mainly came from the Ministry of Health and Care Services. However, the collaboration is indirectly corroborated because the Ministry of Finance, unlike all others ministries, did not contribute an answer to the consultative round concerning the 2004 accounting regulation proposal. As such, it is understood that the calculations and technical argumentations for the accounting regulation's proposal come from the Ministry of Finance.

The third category of actors includes two types of professions. The accounting profession groups hired auditing companies represented by their auditors that provided expertise from private sector accounting to the CG as well as, more generally, the Norwegian accounting community represented principally by the academia and the NASB. The accounting community was an important contributor to the consultative round concerning the 2004 accounting regulation with its private sector's expert opinion. The second type of profession is technical experts, who were drawn into the translation process as the CG needed support for its own translations of private sector norms based on alternative calculation methods.

The last category is the actants (nonhuman elements) involved in the translation process. These are mainly accounting inscriptions or artefacts. The artefacts are the different accounting frameworks rationales (private vs. public) as well as the respective calculation methods alternatively presented by the central government and the accounting profession to support their own views.

The description and the analysis of the tedious process leading to a new national health care norm system were structured according to five phases. The phases represent the different translations that were successively put forward by the involved actors. The successive translations illustrate the complexity of the translation process. This was complex since actors with different rationales and contingencies were fighting to impose their own translation.

During these phases, the focus was on which method should be chosen to value HE assets and calculate depreciation costs. Different accounting models sprung out from these phases. The different accounting models (numbered from 1 to 4) were transformed or rejected at the end of each phase of the process as a result of the interactions of competing groups of actors. These groups of actors used rhetoric based on different rationales, which were supported by specific accounting inscriptions. Through the rhetoric, the groups tried to impose their own views by winning over the reluctant ones. Throughout the process, the main actor, the central agency (CG), tried to settle controversies about the new accounting norms by presenting hybrid accounting models in order to enroll opposing groups and control the process outcomes. Page 27, a table shows an overview of the different accounting models presented during the five phases of the translation process.

Any accounting model (private or public) rests on an accounting framework, which structures and orders accounting information according to its own rationale. Hendriksen and Van Brenda (1992) argued that accounting concepts are merely artefacts of accountants with little or no interpretational significance to real world phenomena. This means that accounting can not be viewed as a neutral tool that orders financial information in an objective manner. Accounting can be understood as an instrument “*contributing to the construction and maintenance of organizational order*” (Robson, 1991, p. 547). Therefore, the outcomes of the process of translating private sector accounting norms to national health care accounting norms are contingent on the respective goals and interests of the actors involved. As a consequence, one can expect that the power balance between groups of actors with different views would influence the choice of methods to value HE fixed assets and the amount of depreciation costs imputed to the HEs.

The methods chosen formed the basis for the new accounting norms (= “how accounting should be”). Accounting norms guided the recognition and measurement of the elements included in HEs’ financial statements. Therefore, the norms had a bearing on HE

performance, that is, their efficiency, measured in financial terms. How efficient HEs would be, per se, would thus depend on the choices made during the norm setting process. Moreover, the new national health care accounting norms should be the basis for the development of local norms and accounting practice within the regional health enterprises (RHEs), yet in accordance with their own management and accounting systems (2001 report from the Social and Health Department (SHD) pages 1, 3).

The norm setting process can be illustrated by the following statement: “*the existence of a particular form of accounting may be the result of multiple logics or varying chains of reasoning*” (Robson, 1991, p. 548). This statement confirms the relevance of describing the new national health care accounting norms as the outcomes of a translation process, where the outcomes depended on the context in which the implementation took place.

### **The adoption of accrual accounting within the Norwegian health care setting**

This section describes how accrual accounting was adopted within Norwegian health care, before being implemented at a high speed in its new setting. The 2002 Norwegian health care reform, which introduced accrual accounting into Norwegian health care, followed an ambitious time schedule. Only six months separated the adoption of the reform (June 2001) with its implementation (January 2002). The ambitious implementation schedule reproduced the pattern of the political process leading to the passing of the reform. This process had been successfully driven at a quick tempo.

During the political process, accrual accounting had been, using Callon’s terms, assimilated as a black box (Callon, 1981). This means that accrual accounting promised increased efficiency by visualizing all hospital costs (including depreciation costs). As a result, accrual accounting would enable benchmarking between hospitals and improve the basis for decision-making. However, the black box of accrual accounting, that is the mechanisms behind the accounting framework, had been kept hidden within the HE organizational model during the political process to secure the passing of the reform within the desired time schedule. As a consequence, all the accounting challenges of translating private sector accounting norms into public sector health care norms remained unsolved.

As soon as the reform was passed, administrative actors took over from political actors. The CG, represented by the Ministry of Health and Care Services, was the central agency in charge of the implementation process. However, neither hospitals, using modified cash accounting (referred to as Model 0 in Table 2) nor the CG, using another modified cash accounting framework, had the necessary accounting expertise to accomplish the translation of the private sector’s accounting norms and in particular the valuation of hospital assets in



order to determine the cost of capital. For that reason, the CG brought in external expertise from the private sector (auditors) to open and translate the black box of accrual accounting into the new setting. Therefore, the CG hired a major auditing company, which issued an opening balance sheet accounting guideline for the HEs (Social and Health Department (SHED), August 2001).

### **The first phase of the translation process: Model 1**

This section describes the first phase of the translation process of private sector accounting norms. At the end of this phase, a controversy between the involved participants about how the new national health care accounting norms should be launched a new phase and a new translation.

Soon after the adoption of the 2002 health care reform, the auditing company issued an accounting guideline that listed the assets to be incorporated in the HE balance sheets and described the valuation rules to follow. The auditing company's accounting model (called Model 1) recommended the use of replacement cost (current value) for the valuation of fixed assets with a deduction for wear and tear. The replacement cost method was a proxy for the acquisition cost method, which is the valuation method used in the private sector norm system (Norwegian Accounting Act §5.3). The valuation of fixed assets was undertaken in collaboration with technical experts. Based on Model 1, the valuation gave an estimated total of 116 billion NOK for the HEs' fixed assets.

However, the central agency (CG) questioned the accounting model proposed by the auditing company. This was because the CG realized that based on Model 1, the valuation of HE fixed assets would be a great deal higher than budget allocations allowed. As a consequence, a temporary opening balance sheet was used until the final valuation was completed. This temporary valuation was, until further notice, "de-coupled" from a final valuation" (KHD, May, 9th, 2003, p.1). With this valuation, CG was able to charge the HEs with yearly depreciation costs corresponding to budget allocations.

### **The second phase of the translation process: Model 2**

The second phase of the translation process started with a new accounting model put forward by the CG, which contested Model 1. According to the new model, called Model 2 (see Table, p.27); the HEs' fixed assets were valued at an estimated total of 45 billion NOK. This valuation was about 60% lower than the previous valuation based on Model 1. The calculation techniques behind Model 2 were based on past-allocated revenues in order to match the CG's yearly budget allocations for the HEs. The CG's accounting model was presented in an appendix to the yearly 2003 steering document (Ministry of Health and Care Services (KHD), May 2003). The CG's Model 2 was a means to control the HEs' increasing budget deficits by

artificially matching the HEs' capital costs with allocated budgets. At this time of the process (2003), the CG had dropped any hope of ever introducing a return on invested capital while continuously postponing the budget balance target, now to 2004 (steering document to the RHE, 2003, Chapter 4).

With Model 2, the CG reopened the accrual accounting black box by introducing a new valuation method in order to frame the translation of private sector accounting norms within national budget contingencies (letter from the CG to the RHEs, 09.05.2003, page 1). The CG's valuation of the HE fixed assets was based on the amount of expected revenues allocated through budgets to cover depreciation costs (Royal Proposition No.1, 2003-2004). Past allocated investment revenues were proxies for the value of the HE total fixed assets.

To justify the lower valuation of the HE fixed assets, the CG argued that the recorded value of fixed assets could not be higher than the net realizable value, according to the Norwegian Accounting Act (§5-3). For the CG, its own valuation was a proxy for the HEs' net realizable value. However, the calculation methods of Model 2 were not based on private sector accounting norms since the existing legislation relied on methods such as acquisition cost or replacement cost. Furthermore, the CG's calculation methods were not recommended by accounting practice such as the present value method that was based on future expected revenues. So, the sole purpose of Model 2 was to channel a new health care accounting norm system into a national budget balance perspective. As such, I have called Model 2 BAD (1) in the table page 27, which stands for Budget Adapted Depreciations (BAD).

In addition to the CG's own accounting model (Model 2), the CG tried to transform the content of accounting Model 1, which was issued by the accounting experts, in order to reduce the gap with the CG's budget allocations. The CG's rhetoric was based on two arguments to convince the reluctant accounting experts to make adjustments to their calculations. The first argument was to replace the concept of economical lifetime of fixed assets with the concept of technical lifetime of assets (Parliament Proposition No.1, 2003-2004, Box 1.1). This new concept would extend by ten years the lifetime expectation for buildings and as a consequence reduce the amount of yearly depreciation costs. However, the technical experts did not support this view. Therefore, the CG introduced three additional concepts to weaken the technical experts' recommendations, which did not fit the CG's budget rationale. The first concept was called *utility value*<sup>3</sup>. The *utility value* concept represented the value of HE fixed assets and included two other concepts of "*taxation from the technical experts*" and "*past investments expressed through 1990's budget allocations*". The CG rhetoric was that the independent technical experts' valuation "*did not build on*

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<sup>3</sup>(Letters from the Ministry of Health and Care Services to the RHEs, 16.02. and 25.03.2004)

*sufficient assumptions to alone form the basis of an optimal utility value of HE fixed assets”, which would fit budget contingencies (25.03.2004, p.2).*

Through the ANT lens, this can be seen as if the CG introduced an actant called “*utility value*” that combined two other actants, “*taxation from the technical experts*” and “*past investments expressed through 1990’s budget allocations,*” in the valuation of HE fixed assets. By combining different actants, the CG tried to convince technical experts to accept its view on how the new accounting norms should be.

The second argument of the CG’s rhetoric was that budgeted depreciation costs had been estimated at 2.8 billion NOK, and not 5 billion NOK as estimated in accounting Model 1. The argument was based on an earlier Royal Proposition (Parliamentary Proposition No.1, 2001-2002). The 2.8 billion NOK corresponded with expected allocated revenues calculated as “*the average amount of investment within health care in the 1990s*”. However, this amount did not include future investments. Furthermore, CG introduced a new accounting concept called “*adjusted income*”. According to this new concept, the part of depreciation costs not covered through budget allocations would be retrieved from the HE income (and accountability). The new concept would therefore reduce the financial pressure on the HEs since adjusted financial figures would be closer to the CG’s budget balance targets.

According to the ANT terminology, the “*adjusted income*” concept can also be seen as an actant. It helped to reduce the CG’s financial demands on the HEs and by doing so, it helped to convince reluctant actors that the CG’s translation was the right one as it secured both the CG and HE interests.

### **Phase 3 and Model 3: the CG’s compromise to convince reluctant actors**

Because the second model did not convince the accounting professionals, the CG came up with a new model in order to narrow the gap between the CG’s own translation (Model 2), based on expected allocated revenues, and the accounting experts’ Model 1, based on replacement cost. The new accounting model (called Model 3) initiated a third phase in the translation process, and it was presented as a compromise between the two previous models. With Model 3, HE fixed assets valuation would be estimated to  $\frac{3}{4}$  of their replacement cost, giving a total value of approximately 85 billion NOK. Furthermore, the final valuation would be lower because one had to take into account wear and tear since the first valuation (2001). Moreover, according to Model 3, only increased productivity from the HEs would counterbalance the future higher depreciation costs due to the replacement of existing fixed assets.

In 2004, new accounting documents were sent to the RHEs as a consequence of the CG's last translation (documents dated 16.02.2004 and 25.03.2004). These documents were based on the 2003 Proposition and on the CG budget documents (B Innst. No. 11 (2003-2004). According to the documents, any amount of fixed assets superior to  $\frac{3}{4}$  of the replacement cost value would be recorded separately with a tied-up reserve under subscribed capital as a counterpart. The corresponding excess amount of depreciation costs would then be recorded towards this reserve as an allocation of net income.

The calculation techniques behind Model 3 were now based on private sector accounting norms. They referred to the replacement cost method to value the HE fixed assets. However, the calculations techniques were still within a budget contingency rationale since the model limited the valuation of fixed assets to  $\frac{3}{4}$  of the total replacement cost value. This random  $\frac{3}{4}$  limitation was not based on any recommendations from accounting practice and was once more only promoted to fit the CG's budget allocations contingencies. Therefore, similar to Model 2, Model 3 is also denominated as a Budget Adapted Depreciations' model or BAD (2) (Table page 27).

Once more, the new CG model (Model 3) failed to persuade the reluctant actors (accounting experts) to accept the CG's newest translation. Therefore, the CG took a drastic step. It came up with a new translation presented as a mandatory accounting regulation. The pressure was on the CG as the HEs' accumulated deficits were growing out of control, partly due to the new depreciation costs burden.

#### **Phase 4 and the CG's Obligatory Point of Passage (Model 4)**

The fourth phase of the translation process of private sector accounting norms took a drastic turn because the CG came up with its latest model, called Model 4. The CG's argumentation for the last translation was the following: "...*It is necessary to introduce specific accounting regulations for the HE fixed assets repossessed at the time of the reform, in order to use the financial statements as performance measurements according to the terms that are the basis of the parliament yearly budget resolution*" (introduction letter to the consultative round, p. 2). This means that the CG used a budget contingency rationale to legitimate the fact that model 4, which was presented as an accounting regulation, was actually an exception to the Norwegian Accounting Act's valuation rules for fixed assets (§5.3), which recommended the use of the *acquisition cost method*. As a consequence and according to the regulation, the value of the HE fixed assets purchased before 01.01.2002 would be estimated at  $\frac{2}{3}$  of total replacement cost value.

The rhetoric behind CG's last translation was similar to the rhetoric used in the 2003 Royal Proposition (Parliamentary Proposition No. 1 (2003-2004)). According to the accounting

regulation (Model 4), the new national health care accounting norms would be de-coupled from the private sector accounting norms. This was done to fit the public sector budget contingencies, particularly the cash accounting model with a one-year perspective.

Similar to Model 3, Model 4 used a method recommended by accounting practice (replacement cost as a proxy for acquisition cost). However, both models added arbitrary calculation techniques ( $\frac{3}{4}$  or  $\frac{2}{3}$  of replacement cost) in order to adjust the methods to the CG's rationale for national budget allocations. The choices of  $\frac{3}{4}$  or  $\frac{2}{3}$  of replacement cost had never been used before, nor had they been recommended by accounting practice. This is because although Models 3 and 4 were derived from methods recommended by accounting practice, they were translated from the private sector's accrual accounting model to fit the CG's public sector context. The models were constructed so that they incorporated accrual accounting elements in order to win over the private sector accounting experts, but still fit the CG's purpose of budget balance. As such, similar to Model 2 and 3, Model 4 is also denominated as a Budget Adapted Depreciations model or BAD (3) (Table page 27).

In the short-term, the purpose of the accounting regulation (Model 4) was to give the CG control over health care expenditures by suppressing from the HE balance sheets one-third of the value of their total fixed assets. As a consequence, the burden of depreciation costs would be reduced and the HEs performance improved. Furthermore, Model 4 went a step further than the prior one (Model 3). It departed from the general accounting principles of the accrual framework such as comparability because Model 4 used two types of measurement methods (before and after 01.01.2002). Moreover, if Model 4 was passed as a mandatory accounting regulation it would allow future translations whenever the CG needed to make adjustments in order to fit public sector contingencies.

In the fall of 2004, the accounting regulation (Model 4) was sent out on a consultative round. The opponents (accounting experts, the RHE and the HE leaders) expressed through their answers (37) that the CG's translation did not place enough focus on the decision-making function of accounting. Using ANT terms, the opponents to the CG's translation used the *accrual accounting framework* as an actant within their actor network to emphasize the fact that following strictly private sector accounting norms improved decision-making. For them, only accrual accounting showed the real performance of the HEs measured in financial terms.

Two types of arguments for a sheer accrual accounting model (like Model 1) were proposed. The first argument was the concept of transparency. Only full compliance with the accrual accounting model would show the real capital costs and consequently give the best basis to assess the HE budget allocation needs (the National Audit Office's reply to the consultative round). The second type of argument referred to the accrual accounting framework and the qualitative characteristics of accounting information such as *reliability*, *comparability* and

*consistency* (Tellefsen et al. 2005 p.131). Opponents to the CG's translation meant that accounting information could not be reliable or comparable because two different types of measurement were introduced (before and after 01.01.2002). As a matter of fact, the accounting regulation (Model 4) would not only have prevented a comparison between sectors (public and private) but also within the public sector (health care) since two different methods could be used to value the HE fixed assets. Fixed assets purchased before 01.01.2002 would only show  $\frac{2}{3}$  of their value, while similar assets purchased after 01.01.2002 would follow the regular valuation rules of the Norwegian Accounting Act (§5.3). In addition, the CG's accounting regulation was inconsistent since two different methods to value fixed assets (before and after 01.01. 2002) could be used within the same HE.

Still using ANT terms, the "Accounting Academia Network" even introduced another powerful *actant* to reject the CG's translation: the concept of "*earnings management*". According to them, the accounting regulation (Model 4) would give public sector entities an advantage by excluding some of their capital costs from the financial statements and as a consequence artificially improve the HE performance (Norwegian School of Economics and Administration, Norwegian Auditors Association replies to the consultative round). Despite the scepticism of the whole of Norwegian accounting expertise as well as the RHE and HE leaders, the accounting regulation was submitted in March 2005 to the Parliament as an amendment to the Health Enterprise Act (Ot. Prop. No. 56 (2004-2005)).

In ANT terms, this last translation (Model 4), which was promoted as a mandatory accounting regulation, can be defined as an obligatory point of passage (OPP). As an OPP, the regulation would force accounting experts to accept the CG's translation of private accounting norms. The change of the model into a mandatory accounting regulation shows that the CG hardened its strategy. This is similar to what EDF employees did when more sophisticated arguments failed to convince sceptics to adopt their technical innovation (Callon, 1987).

### **The CG's Network Falls Apart: back to Model 1**

This section describes and analyses the fifth and last phase of the translation process of private sector accounting norms into the Norwegian health care setting. This phase is characterised by the CG's failure to control the process towards the desired outcomes of budget control. The accounting regulation (Model 4) was first presented in a Cabinet meeting (18.03.2005), where it was approved for further submission to the Parliament. At that time, the ruling government was from the Christian People's Party, a party that had voted against the health care reform back in 2001. Consequently, political actors backed up the CG's translation since the accounting regulation weakened the introduction of the private sector's mechanisms within the management of health care in general and accrual accounting's role in particular. Nonetheless, the support from political actors to the CG's network, especially Model 4, fell apart when the regulation was debated in Parliament in the social committee.

The leader of the social committee belonged to the right wing Progressive party and had been one of the dominant actors helping the Labour Party to pass the Health Care reform in 2001.

Using ANT terms, the social committee added a new actant: “*patients’ health supply*” to the rhetoric of the Accounting Academia network to add strength to the arguments for the rejection of the accounting regulation. The social committee meant that a valuation of the HE fixed assets, which was lower than reality, would result in a growing lack of maintenance. The lower valuation would also prevent necessary reinvestments and therefore threaten the future supply of health care services.

In May 2005, the accounting regulation (Model 4) was rejected by the committee (Innst. O. No. 93 2004-2005). The social committee stated that the rejection was a consequence of the uniform criticism articulated through the answers to the consultative round.

After four different translations, the valuation of the HEs’ fixed assets for the HEs’ 2002 opening balance sheet was back to the first translation (Model 1) and landed on the replacement cost valuation method. The method was the one recommended by accounting experts in the initial translation (Model 1). The method fully complied with private sector accounting norms such as the Norwegian Accounting Act and the related national accounting standards. As a consequence of the Parliamentary Resolution, the CG increased the HEs’ investment allocations from covering 80% of depreciation costs in 2007 up to 100% in 2008 (Parliamentary Proposition No. 1 2007-2008, page 119). By doing so, the CG finally acknowledged that the new national health care accounting norms would be based on private sector accounting norms. As a result, in 2007 the adjusted income concept was suppressed from the HEs’ financial statements. This led to an increased pressure from the CG on HEs financial accountability as the HEs now had to follow private sector accounting norms and concepts.

## **A complex process of translating private sector accounting norms**

The following table gives a chronological overview of the five phases of the translation of private sector’s norms into new health care accounting norms and the respective accounting models put forward during each phase of the process to value HEs fixed assets.

Model Name	Content	Time	Issued by
<b>Model 0</b>	No depreciation costs at hospital level  (modified cash accounting)	June 2001	Former owner (counties)
<b><u>Phase 1: Model 1</u></b> Verbatim translation of private sector accounting norms	Based on the Norwegian Accounting Act (accrual accounting)  <b>Method:</b> replacement cost as proxy for acquisition cost	Fall 2001	Accounting experts (auditing company from private sector)
<b><u>Phase 2 Model 2:</u></b> BAD (1) Budget Adapted Depreciations  Translation Adapted to CG budget contingencies	Based on cash accounting  <b>Method:</b> Budget Adapted Depreciations based on past allocated investment revenues	2003	CG (Ministry of Health and Care Services)
<b><u>Phase 3 Model 3:</u></b> BAD (2) Budget Adapted Depreciations  Translation still adapted to CG budget contingencies yet a compromise between Models 1 and 2	Mixed from accrual and cash accounting  <b>Method:</b> Budget Adapted Depreciations based on $\frac{3}{4}$ of replacement cost	2004	CG (Ministry of Health and Care Services)
<b><u>Phase 4 Model 4:</u></b> BAD (3) Budget Adapted Depreciations  (Coercive model: translation presented as a mandatory accounting regulation)	Mixed from accrual and cash accounting  <b>Method:</b> Budget Adapted Depreciations based on $\frac{2}{3}$ of replacement cost only for fixed assets prior to 01.01.2002  (Assets purchased after 01.01.2002 follow The Norwegian Accounting Act)	2004/ 2005	CG (Ministry of Health and Care Services)  Departs from accrual accounting framework with two different methods to value fixed assets before and after 01.01.2002)
<b><u>Phase 5 Model 1</u></b> <b>FINALLY Implemented</b> Verbatim translation of private sector accounting norms	Based on the Norwegian Accounting Act  <b>Method:</b> replacement cost as proxy for acquisition cost	May 1 2005	Accounting experts (auditing company) supported by Accounting Academia, politicians, RHE and HE leaders)



As a summary, the process of translating private sector accounting norms into public sector national health care accounting norms can be characterised as a complex process.

It was complex because the central agency (CG) was focused on translating the norms into the boundaries of existing health care budgets. As such, the CG translated private sector norms into three different accounting models (from 2 to 4). The progressive transformation from Model 2 to Model 4 aimed at convincing reluctant actors (Models 3 and 4 mixed cash and accrual), but always within a rationale of what could be afforded budget wise. Only Model 1, which was presented by private sector accounting experts, was solely based on private sector norms. Model 1 is the initial model and the model that was finally implemented since the CG did not manage to build an actor network strong enough to control the process outcomes.

## Conclusion

The aim of the study was to describe and analyze the implementation process of accrual accounting into Norwegian health care in order to provide some explanations to the various outcomes of NPM-inspired accounting reforms. The purpose of the empirical study was to especially provide answers to the research question: How are private sector accounting norms translated into public sector health care accounting norms? As such, the implementation process of accrual accounting was narrowed to the study of the translation of private sector accounting norms into national health care norms. Furthermore, the study focused on the role and influence of heterogeneous networks of actors made of human and nonhuman elements. The empirical study, using Actor Network Theory (ANT), described how different actor networks used calculative devices to control the translation of private sector accounting norms into the new public sector setting. Two main findings can be drawn from this study. The first finding highlights the complexity of the accrual accounting's translation since the framework was for the first time in Norway introduced into the public sector setting and only in one sector (health care). The second finding is about financial statements, described as boundary objects, which failed to link together actors with different rationales leading instead to a long lasting power struggle between involved actors.

### **De-contextualisation and complexity of the translation processes**

During the adoption process of the 2002 Norwegian health care reform, the Minister of Health and Care Services promoted the benefits of introducing accrual accounting within the Norwegian health care by de-contextualizing it. However, the de-contextualization of accrual accounting created problems when it was implemented into the new setting. This is the first finding of the study. As a consequence, the process of translating private sector accounting norms into new national health care norms was complex and characterised by a five-phase power struggle between the actors involved.

The new national health care norms (represented in Model 1) were an outcome of this power struggle. The CG attempted to control the whole process towards new national health care accounting norms within national budget contingencies, which would enable control at a distance. In particular, the study highlights how actants, such as the different accounting models, were used to exert this control at a distance (Miller, 2001; Robson, 1992; Law, 1986).

In the first phase of the process, the accounting experts who were hired set up the framework of the translation by presenting calculation methods (Model 1) in accordance with the accrual accounting framework. However, the central agency (CG) did not accept this framing since Model 1 implied additional allocations to the health care sector than the existing budgets allowed. Therefore, the central agency disturbed the translation process in Phase 2 by creating overflows. The CG introduced new calculation methods (Model 2) based on a cash accounting rationale of budget contingencies. However, this re-framing attempt was rejected by accounting experts.

During the third and the fourth phases of the process, the central agency (CG) tried again and again to frame the translation of accrual accounting within its budget contingencies (Models 3 and 4). During Phase 3, the CG showed a desire to reach a compromise because the new model mixed elements from both the accrual and the cash accounting rationales. Because Model 3 was rejected, the power struggle amplified during the fourth phase with the introduction of Model 4 as an OPP. Model 4 was presented as a mandatory accounting regulation (OPP) that would with political support force the translation process towards the CG's aim of budget control. However, new overflows were created since emerging groups (Accounting Academia, health care leaders) criticised Model 4. Political actors backed up these emerging groups and rejected the accounting regulation. The CG's last framing attempt failed. As a consequence, the translation process of accrual accounting was finally reframed based on the accounting experts' initial model (Model 1), which was a verbatim translation of the private sector's accounting framework. This unexpected turn led to new national health care accounting norms in accordance with the one of the two aims of the 2002 Norwegian health care reform, which was to improve local decision-making by visualizing all costs (Minister of Health and Care Services' speech from 05.02.2001).

Furthermore, during the fourth phase of the translation process, the CG's strategy was assimilated as a black boxing strategy. When the CG failed to convince reluctant actors by presenting complicated calculation methods (Models 2 and 3), the CG tried to black box the whole translation with an accounting regulation (Model 4). Moreover, the accounting regulation would have allowed future translations steered by the CG's needs. As in the Skærbæk et al. study (2004), black boxing is associated with power. This finding is confirmed with previous health care studies (Lowe, 2001; Lowe, 2000; Chua, 1995; Lawrence et al., 1994; Preston et al., 1992). Yet, the CG did not manage to keep the black box closed (as in Skærbæk et al., 2004) and the CG's political failure led to the loss of power about how the

new accounting norms should be structured. Furthermore, two of the health care studies did emphasize the instability of such processes (Lowe, 2001, Preston et al, 1992). They also drew attention to the fact that closed black boxes (such as the new accounting norms) can be reopened and subject to new translations and controversies.

Eventually, the outcomes of the translation process are a result of the comparative strength of two competing actor networks. The CG's network became unstable because the accounting models (and the related methods) kept transforming to reach a compromise and convince reluctant accounting experts. However, the accounting experts' network grew stronger since their rhetoric was consistent throughout the whole process, promoting a verbatim translation in order to improve decision-making.

The contribution of this study is to provide explanations to the various and sometimes unexpected outcomes of NPM-inspired accounting reforms by focusing on power issues. ANT helps to explain how a radical accounting innovation (accrual accounting) was successfully implemented at the norm level in a country known as a slow and reluctant reformer (Bleiklie et al., 2000; Mellempvik et al., 1998). As in previous Norwegian studies, this study confirms the importance of the different actor networks when translating private sector mechanisms into a public sector setting (Østergren, 2006; Østergren et al., 2006; Nyland et al., 2004; Model, 2001; Pettersen, 2001(2), 1999, 1995). However, none of the studies have focused on the close relationship constructed between actors and actants to obtain a power position and maintain this position in order to institutionalize the change. The consistency of the chosen actants made the accounting experts' network strong and durable.

Similar to the study of Christiansen et al. (2007), this study focuses on the role of central agencies using accounting devices to translate private sector mechanisms according to their needs and interests. However, contrary to their findings, the central agency in this study did not impose its view because it failed to convince political actors.

## **Boundary Objects and Financial Statements**

Accounting norms are the basis on which financial statements are prepared. Financial statements visualize the HEs' performance measured in financial terms. However, the content and purpose of financial statements vary according to the accounting framework on which they are based. As such, financial statements are malleable and versatile. This adaptability and flexibility comply with the definition of "*boundary objects*" (Leigh Star et al., 1989). The study's finding draws attention to the role of financial statements as boundary objects. However, unlike previous studies, this study shows that financial statements as boundary objects failed to bridge different worlds based on different accounting rationales (Emsley, 2008, Åkerman et al., 2006, Briers et al., 2001 and Leigh Star et al., 1989).

Leigh Star et al. (1989, p.388-389) said that communication is an important part of the constitution of new knowledge, adding the following “... *new objects and methods mean different things in different worlds, actors are faced with the task of reconciling these meanings if they wish to cooperate*”. They also added: “*Unless they use coercion, each translator must maintain the integrity of the interests of the other audiences in order to retain them as allies*”. In this study, the content and purpose of financial statements were the ultimate goals of the power struggle. This is because the central agency (CG) focused on fulfilling its own interests. For the CG, “financial statements” were mostly tools to control budget allocations within the health care sector and as such to limit the use of public resources. In contrast, for the auditors and the emerging concerned groups, “financial statements” were tools to visualize the financial situation of the HEs in order to give true information about all health care costs. For them, only accrual accounting would fulfil this purpose as well as provide a sound basis for decision-making.

The CG set aside the needs of other users, such as the accounting experts or the HE managers, using mostly power to impose its view. The calculative devices become an active part of the power struggle instead of: “*an organizing rationale around which debates can take place...*” (Miller, 2001, p. 386). By calculative devices, I mean the different models leading to a different content of the financial statements. The power struggle is the reason why financial statements, such as BS, fail to reconcile different needs and views. As such, the study supports the findings of the Skærbæk et al. study (2009) where accounting devices (calculations methods) shaped rationales that promote various goals and interests from actors with opposing views. Paraphrasing Perkins (1996), the study, with the help of ANT’s methodology, unravelled the CG’s “*skilled ongoing act of manipulation*” to impose a rationale based on budget control contingencies. Supporting Chua’s claims are accounting devices in this study seen as flexible and non-neutral tools that serve the conflicting purposes of human agency (Chua, 1995).

In the Østergren et al. study (2006) about the free choice of hospital in Norway, the implementer (CG) and the involved professions agreed on the solutions chosen, which were directly translated from private sector market mechanisms. The outcomes of the implementation were limited due to individual factors at the user level (such as patient willingness to travel) and not because of the translation. However, regarding other private sector mechanisms, such as new management tools (prospective payments) or measurement tools (accrual accounting), it is the power struggle between the actors involved that conditions the outcomes. Although the medical professions agreed on the introduction of the prospective payments system, the outcomes of the translation were influenced by the CG’s budget contingencies. Regarding accrual accounting translation into the health care setting, the medical profession was not included in the process. However, such implementation of private sector mechanisms has a bearing on the future management of health care and on organizational member behaviour (hospitals professionals).

For future research, an interesting issue is the further translation of accrual accounting at the local level. In particular, how are national health care accounting norms translated at the local level? Is the further implementation process steered by national contingencies or are local actors empowered so as to actively contribute to the translation? Are local health care accounting norms solely derived from the national health care norms or do the context (s) in which the local norms are implemented influence the outcomes? Are there any differences between local accounting norms within the same RHE that can be explained by the interactions and needs of local actors?

## Appendix 1

### Accounting models in Norway (exclusive public health care)

Accounting Models	Central Government Accounting (CG)	Local Government Accounting (LG)	Private Sector Accounting (PS) (minus Listed Companies which follow IFRS)
Regulatory Framework	Norwegian national constitution with numerous guidelines and circulars	LG Act (KL) and accounting regulation (FOR 2000) with generally accepted LG accounting principles (GALGAP)	Norwegian Accounting Act (RL) and accounting standards (NRS)
Purpose of Accounting	Parliamentary control of public expenditure NON-PROFIT	Control of public expenditure NON-PROFIT	Useful information for decision-making PROFIT (wealth creation)
Steering Accounting Principle	CASH accounting principle but exceptions	CASH modified (Cash and accrual elements)	ACCRUAL
Techniques	Complicated (Bourmistrov et al. 2005, Table 1, page 254)	Mixed techniques from CG and PS	Consistent techniques with exceptions according to principles and qualitative characteristics
Revenues /Expenses Concepts	Focus on in/outflows	Focus on in/outflows with exceptions (depreciation)	Focus on future economic benefits
Recognition Revenues Expenses	Cash payments Cash (inflow)  Cash (outflow)	Current dues principle Immediate and later cash (inflow) Immediate and later cash (outflow)	Earned revenues (goods/services delivered)  Matched with revenues accrued (resources used)
Measurement	Value of the exchange (payment time)	Value of the exchange (payment time)	Value of the exchange (sales time)

## Appendix 2

### Examples of countries with different norm systems within the private and public sectors

	AUSTRALIA	SWEDEN	UNITED KINGDOM	NORWAY
Listed companies	IFRS  Accrual Accounting I	IFRS  Accrual Accounting I	IFRS  Accrual Accounting I	IFRS/National Standards (1)  Two types of Accrual I and II
Non-listed companies	IFRS  Accrual accounting I	National standards  Accrual Accounting I	National standards  Accrual Accounting I	National standards  Two types of Accrual I and II
Central government (CG)	IFRS  Accrual Accounting I	National standards CG  Accrual Accounting II	National standards CG  Accrual Accounting II	National standards CG  Modified cash accounting
Local government (LG)	IFRS  Accrual Accounting Type I (2)	National standards  LG Accrual Accounting II	National standards  LG Accrual Accounting II	National standards LG  Modified cash accounting

(1) In Norway only consolidated accounts of listed companies must follow IFRS.

(2) Accrual accounting norm systems Type I are pure IFRS based systems, while accrual accounting norm systems Type II include different national versions of accrual accounting (either based on national accounting regulation or on IFRS). Public sector accrual accounting norm systems Type II include norm systems based on the International Public Sector Accounting Standards (IPSAS). IPSAS are derived from IFRS, yet adapted to non-profit organizations.

## Essay 4: Translation of national health care accounting norms into local health care accounting norms: the constitutive role of actants

### **Abstract**

Using Actor Network Theory (ANT), the aim of the empirical study is to describe and analyze the translation process of national health care accounting norms into local health care accounting norms in order to provide explanations for its outcomes. The study can be summarized in two findings. The first finding deals with complexity and organizational knowledge. Since accrual accounting is implemented for the first time in the Norwegian public sector setting, regional and local actors have to build a new organizational knowledge to be able to translate the national health care accounting norms. The ANT concept of translation visualizes this gradual and step-wise process. Contrary to previous ANT accounting studies about NPM reforms and organizational knowledge (Skærbæk, 2009; Christensen and Skærbæk, 2007; Gendron, Cooper and Townley, 2007; Skærbæk and Thorbjørnsen, 2007), this study shows that it is the local actors who progressively construct a new organizational knowledge through the use of supporting networks inside and outside the public sector's boundaries. Moreover, while previous accounting studies have emphasized the central role of public sector auditors during accounting change processes, in this study, it is the private sector auditors who help organizational members to build this knowledge (Skærbæk, 2009, Skærbæk et al., 2007 and Gendron et al., 2007).

The second finding deals with the constitutive role of nonhuman elements. Nonhuman elements (described as actants) play a central role in the translation of national health care accounting norms for two reasons. The first reason is that nonhuman elements, defined as inscriptions, erase the macro/micro levels and enable control at a distance. As such, the study shows that the use of multiple inscriptions can be assimilated to black boxing (Bonner and Chiasson, 2005). Inscriptions as black boxes condition organizational members to produce financial information in a pre-determined manner according to the central agency information needs and goals. The second reason is that, according to previous ANT empirical accounting studies, actants have the capacity to transform the behavior and identities of organizational members (Skærbæk, 2009; Skærbæk et al., 2007; Lowe, 2001 and 2000). However, in this study, actants, both transform organizational actors and are transformed by these actors.



## Introduction

During the last decade, the Norwegian public sector has undergone major accounting changes, which were influenced by the New Public Management (NPM) trend and experiences from other western countries such as Australia, New Zealand, and Great Britain. Accrual accounting, the accounting framework used in the private sector, has made its entry, albeit showing variations in the scope and level of implementation.

In 2004, at the central government (CG) level, the Norwegian Ministry of Finance launched a pilot project to develop and implement accounting standards based on the accrual accounting framework. However, it was assumed that accrual accounting solutions would be adapted to the specificities of the public sector rather than following tightly the existing private sector standards (Gårseth-Nesbakk, 2007). At a lower organizational level, two major sectors (Health and Education) have been influenced by accrual accounting's entry into the public sector setting. However, while the Ministry of Education and Research's aim has been to adapt private sector norms to the specificities of the setting, since 2002 these same norms have been directly implemented into the health care setting (Office of the Auditor General, 2003-2004, p. 63).

With the 2002 Norwegian health care reform, the central government took over the ownership of hospitals from the counties. Autonomous legal entities called Regional Health Enterprises (RHE) were established as the formal owners of all public health care providers (Læg Reid, Opedal and Stigen, 2005). Under the RHEs, legal entities called Health Enterprises (HE) were also created to provide for health care services since the RHEs are only administrative entities. As a consequence of the organizational change, hospitals had to switch from a modified cash accounting regime to an accrual accounting one to report financial information. As such, the chosen path was radical since the private sector's accounting framework was adopted for the public sector health care setting.

Within the Norwegian public sector, the two examples described above show two different translations of the accrual accounting framework regarding its introduction into a public sector setting. Therefore, it is an interesting to study if the implementation of accrual accounting into Norwegian health care has followed the same radical path of its introduction or if its translation has been influenced by the specificities of the setting.

Accounting practice or "*accounting action*" is defined as "*the instrumental accounting activities*" that are mainly procedures for "*the registration of transactions and annual reporting*" (Bergervarn, Mellemvik and Olson, 1995, p.27). Within Nordic countries, previous accounting research shows that accounting practice is an outcome of complex organizational and societal processes (Gårseth-Nesbakk, 2007; Mellemvik, Gårseth-Nesbakk and Olson,

2005; Bergervarn et al., 1995; Bergervarn and Olson, 1989). Findings from these studies indicate that accounting practice is not solely derived from accounting norms, but is influenced by contextual factors as well. For example, Gårseth-Nesbakk (2007) showed how various actors and groups of actors (users, accounting professionals, and accounting academia) contribute over time to the construction of accounting practice, which in turn influences accounting norms. However, these studies focus solely on the role of human elements (actors or groups of actors), leaving out the possible influence of nonhuman elements (such as accounting systems and accounting texts) in the construction of accounting practice.

In this study, the focus is on local accounting norms since they are the basis for accounting practice. Since the 2002 Norwegian health care reform, local health care accounting norms have been based on national health care accounting norms, which include the Norwegian Accounting Act and its related standards. The Norwegian Accounting Act, used in the private sector, is based on the accrual accounting framework.

The empirical study tries to provide answers to the following research question: **How are national health care accounting norms translated into local health care accounting norms?** The focus is on the translation of national health care accounting norms into local health care accounting norms, when viewed as a process of actor network building. Using Actor Network Theory (ANT), the aim of the study is to describe and analyse the translation process in order to provide explanations on the outcomes based on the above findings described from previous accounting research within Nordic countries, where accounting practice is seen as an outcome of complex organizational and societal processes. In particular, the study draws attention to the roles and interactions between human and nonhuman actors involved in accounting change processes.

Actor Network Theory (ANT) was chosen as the theoretical framework of the study for two reasons. The first reason is that ANT highlights the influence of nonhuman elements on the outcomes of change processes. According to Lee and Hassard (1999), ANT treats human and nonhuman elements in a similar way. Consequently, they recommend the use of ANT as a research strategy to study changes within organizational knowledge and practices (Lee et al., 1999). ANT is therefore particularly suited to the empirical study of the translation process of national health care accounting norms where human actors and accounting devices interact to build a new organizational knowledge within the public sector. The second reason is that ANT's central concept of translation is helpful in describing and analyzing how new performance measurement tools from the private sector (such as accrual accounting) are implemented into a different setting (public sector and health care) that has its own contingencies.

Translation is a process during which new knowledge emerges through mechanisms of displacements, transformations, and negotiations (Callon, 1986). Translation helps to visualize the networks of relationships built by a main actor standing as a spokesman. As such, the focus is on the dynamics of the actor networks involved in the translation process. By following Callon's four moments of translation (problematization, interessement, enrolment, and mobilization), the study provides insight into how new local accounting norms are built and how these norms are the outcomes of the interactions of diverse constellations of actor networks (Callon, 1980, 1986).

In order to reduce the scope of the study, two accrual items (depreciations and provisions) combining measurement and assessment issues have been selected. While measurement is derived directly from the national accounting norms dealing with which methods are used to determine revenues and costs (such as depreciations), assessments are more subjective considerations when methods or rules are too general (Gårseth-Nesbakk, 2007). As a consequence, assessment issues<sup>4</sup> are, to a greater degree, influenced by participating actors and are as such more subject to controversies.

Within public sector accounting research, previous ANT studies have described and analysed the implementation processes of new performance measurement mechanisms inspired by the NPM trend (Skærbæk, 2009; Skærbæk and Thorbjørnsen, 2007; Gendron, Cooper and Townley, 2007) and especially within health care (Lowe, 2001; Lowe, 2000; Chua, 1995; Lawrence, Manzurul and Lowe, 1994; Preston, Cooper and Coombs, 1992). While public sector ANT studies have either focused on the translation of norms (Skærbæk and Tryggestad, 2009; Skærbæk and Melander, 2004; Lawrence et al., 1994) or practice (Skærbæk, 2009; Christensen and Skærbæk, 2007; Cuganesan, Boedker and Guthrie, 2007; Skærbæk et al., 2007; Lowe, 2001; Lowe, 2000; Chua, 1995; Preston et al., 1992), this study makes a new contribution by empirically illustrating how the dichotomy between different levels is erased as two translations processes are linked together. The continuous movements between national and local health care accounting norms are conceptualised through the translation concept, highlighting the complexity of such change processes.

Moreover, by setting focus on the relationship between the outcomes of accounting changes processes (such as accrual accounting) and the social context in which they are enacted, the use of ANT supports previous public sector accounting studies in Nordic countries (Gårseth-Nesbakk, 2007; Bergevarn et al., 1995). This study also stands out in terms of its comparative nature because the findings of the study are based on empirical data<sup>5</sup> collected from two HEs.

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<sup>4</sup> For example provisions and write-offs

<sup>5</sup> Documents and interviews

Furthermore, ANT empirical accounting studies have also drawn attention to the emergence of a new expertise within the public sector and the constitution of a new organizational knowledge (Skærbæk, 2009, Christensen et al., 2007; Gendron et al., 2007 and Skærbæk et al., 2007). However in this study, the new organizational knowledge emerges from local actor participation and interaction within and outside the organizational boundaries and not from centrally steered processes. Furthermore, the study also draws attention to power and the role of non-human elements (Alcouffe, Berland and Levant, 2008; Baxter and Chua, 2003). The findings of the study show that through the use of diverse accounting inscriptions, the central agency manages to control organizational member behaviour from a distance according to its goals and information needs.

The remainder of the paper is presented in four sections. The next section describes the analytical framework (ANT) through which the empirical data are structured and analyzed. Then the empirical method section follows. The third section describes and explains the translation process of national health care accounting norms. The last section presents a conclusion of the study's findings in the light of the ANT framework (Alcouffe et al., 2008; Briers and Chua, 2001).

## **Theoretical Framework: Actor Network Theory (ANT)**

ANT is used to explore how the new national health care accounting norms, which are based on private sector accounting norms, are translated into local accounting norms. The study is theoretically grounded on the works of Callon (1986, 1987, and 1991) and Latour (1991, 1987, and 1986) and Law (1986) which originate from the field of Science and Technology Studies (STS). The translation process, which is a central concept within ANT, is described and analysed based on its four phases of translation described below.

The section includes a description of the four phases of translation and the concept of Obligatory Point of Passage (OPP) followed by a short description of ANT steering principles as well as the related concepts of actor-network, actant and inscriptions.

### **The Four Phases of Translation and the concept of Obligatory Point of Passage (OPP)**

A translation process can be divided into four successive phases throughout which actors' roles and identities, as well as their actions and interactions, are negotiated and delimited (Callon, 1986). During a translation process, an actor acts in the name of others trying to impose on them his view about reality (Linderoth, 1991). The size of the actor-network that is created, as well as its stability, will rely on the ability of the main actor to black box as many elements as possible and link them together. For Callon and Latour (1981, p.284): "*the more*

*elements one can place in black boxes – modes of thoughts, habits, forces, and objects – the broader the construction one can raise*”. However, the outcomes of a translation process are not given in advance since they are contingent on whether the actors involved behave in accordance with what the main actor anticipated.

In this study, the division into phases is a tool to structure the translation process of national health care accounting norms and is meant to help in providing explanations to the differences between the two settings (the two local HEs).

This section gives a brief overview of the four phases of translation. The initial phase, called *problematization*, can be characterized by a double movement. An actor (group of actors) defines a problem and how it can be solved, deciding what is important to include or not (Callon, 1980). This actor (or group of actors) associates other actors with the problem, attributing to them roles and identities. However, the actors associated may have their own interests and goals. As a consequence, the main actor will try to find an obligatory point of passage (OPP), which can be a human or a nonhuman element. This OPP will channel and gather the actors involved towards a solution, which can fulfil different goals and interests (Linderoth, 1991).

In the second phase, called *interessement*, the main actor has to make certain that the actors involved act in accordance with what he had in mind for them. This phase is about keeping the actors within the created network and as such: “*Anything goes*” (Callon, 1986, p.209). This means that the main actor can use different tactics including the use of various devices to isolate the other actors from external disturbances and influences. However, this does not concern all the actors involved but only the key actors, such as various spokespersons.

The third phase, called *enrolment*, is about keeping interested actors within the network. During this phase assumptions from the problematization phase are tested and transformed into facts and actors’ roles and identities are accepted and stabilized (Linderoth, 1991, Callon, 1986). The fourth and final phase is called *mobilization*. It is about verifying that enrolled actors are really representative of the groups they stand for since the whole network relies on these actors (Callon, 1986).

The translation process of national health care accounting norms into local accounting norms is organized on a hierarchical basis in this study. This means that the main actor (the central agency) selects representative actors among organizational members on a hierarchical basis. Moreover, the central agency has to ensure that at the lower organizational levels actors act according to what the central agency has planned and decided.

## ANT Steering Principles

As a theoretical framework, ANT allows freedom to the researcher by emphasizing the fact that the story told is one of many possible stories, based on the data collected and the perspective of the story teller (Alcouffe et al., 2008; Callon, 1986). However, ANT relies on three steering principles since “*society*”, that is the context in which the innovation takes place, is as unpredictable as the technical elements of the innovation (Callon, 1986). The three principles are: (a) the principle of symmetry, (b) the principle of agnosticism and (c) the principle of free association.

(a) *The principle of symmetry* is a central principle within ANT. It is based on the general idea that one adopts a perspective treating human and nonhuman elements in a similar way in order: “*to understand a world in which we increasingly mix objects and society*” (Lowe, 2001, p.81). Callon adds the following: “*both social and natural sciences are uncertain, ambiguous, and disputable,*” and as such, one has to give them equal roles in the analysis (Callon, 1986, p.199). According to Murdoch (1998), the principle of symmetry is the result of the following observations: “*... firstly humans are not always actors, frequently they are intermediaries and secondly not all nonhumans are intermediaries, for they can often act in ways that change (human) worlds.* As a consequence, one cannot predict who or what will act or just be a mediator for others actions (Murdoch, 1998, p.367). Another consequence of this principle is that one cannot change the framework of analysis in order to study controversies in connection with nature or with society (Callon, 1986). Therefore, all the categories of actors being human or nonhuman are equally important and their actions are worth describing and interpreting.

(b) *The principle of agnosticism* means that the researcher must include all types of arguments when describing a translation process. It means not filtering actors when talking about themselves or the context (Callon, 1987). The last principle is c) *the principle of free association*, which deals with abandoning the distinctions between natural and social events (Callon, 1987). As such, the researcher will try to follow as accurately as possible how actors define and link together the different elements (networks) by which they construct their reality (social or natural). Because these three principles are cornerstones within the ANT framework, I have followed them during the collection and the analysis of data to keep an open mind and not exclude any data at an early stage that might provide explanations to the process’s outcomes.

## Actor-network, the Concepts of Incriptions and Actants

Actor Network Theory or the “*translation model*” is related to power issues (Latour, 1986, p. 264). For Latour, power is contextual and is constructed and conveyed through the actions of people with specific aims and goals (Latour, 1986). For Robson, translation implies distance, where one moves from one context to another (Robson, 1991). He argued that if one wishes to act upon a remote setting, one needs to mobilise elements from this context. The ANT

concept of actor-network illustrates how this mobilisation can be achieved. It means building a network made up of human and nonhuman elements that enable such control to be secured. The inscription concept, within ANT, provides additional information about the characteristics of such nonhuman elements. As Callon put it: “*a translation presupposes a medium*” or a “*material into which it is inscribed*” (Callon, 1991, p.143). However, the inscription concept is a broad concept including plain inscriptions such as texts (for example manuals or procedures), technical devices (for example data-based management and control systems) or more abstract elements such as “*bodily skills*” (Callon, 1991, p.143).

In this study, the inscriptions, which are outcomes of the translation process, enable linking across space the regional/national level with the local level. According to ANT assumptions, they have, however, to include specific features if they are to ensure control at a distance. According to Law, such features are: “*Mobility, durability, capacity to exert force, ability to return*” (Law, 1986, p. 241). More generally, the inscription’s ability is to tie together and influence other elements in the actor network in order to channel the process towards predetermined outcomes. As such, the inscription becomes an actor forcing a predetermined course of action upon its users (Latour, 1991; Hanseth and Monteiro, 1997). Therefore, the success of an inscription will depend on its strength, that is, its ability to induce a specific action or behaviour.

It is not only the strength of inscriptions, illustrated by their features, but also the sequence in which they are introduced within the network that influences the outcomes of a translation (Hanseth et al., 1997). For example, regarding the “durability” feature and the “capacity to exert force”, one can assume that written, up to date, and detailed accounting procedures, elaborated by the chief accountant of an RHE, are stronger inscriptions than local oral procedures within an HE. As such, written inscriptions will probably lead to a more homogeneous translation within the regional entity (RHE) and a better vehicle to exert control at a distance. With regard to the other two features, “mobility” and the “ability to return”, IT based accounting systems are inscriptions that fulfil these characteristics since they link instantly different organizational levels across space. Furthermore, inscriptions become stronger when they are combined together, especially with specific technical devices. Technical devices, such as a data-based accounting programs in which accounting procedures are registered, will be able to impose a particular behaviour by blocking alternative choices. Finally, inscriptions also get stronger through successive translations where they are successively modified based on previous experiences in order to suppress undesired actions or behaviours from users (Hanseth et al., 1997, Latour, 1991).

Within ANT, nonhuman elements are gathered under the concept of actant or more specifically under the inscription concept.

## Empirical Method

This section explains the methodological choices made for the empirical study in order to provide answers to the research question. The section is divided into four parts. The first part is about the choice of methodology, since this particular methodology (ANT) influences the design of the study. Details on the research design are included in the following section. The third part is about which accounting issues were selected to reduce the scope of the study, while the last part explains the rationale behind the collection of data.

### Choice of Methodology

ANT places the focus on the fact that all actors<sup>6</sup> involved in a change process are able to influence one another and “*make others do things*” (Latour, 2005, p.107). Moreover, Latour adds that even though studying relationships with nonhuman elements may be “*empirically difficult*”; thanks to ANT it is no longer “*a priori forbidden by the “obvious objections” that “things don’t talk*” (Latour, 2005, p.107). For Murdoch (1998), the strength of ANT lies in its ability to visualize the creation of mixed networks that structure our world.

ANT is therefore an appropriate tool to study the translation process of national health care accounting norms into local health care accounting norms. This is because ANT enables the structure of a complex implementation process by visualizing the dynamic and the complexity of the interactions between human and nonhuman elements linked to one another in specific networks. As such, ANT helps to explain how local norms are outcomes of these interactions. Concerning nonhuman elements, the study concentrates on the role of specific inscriptions such as accounting procedures and accounting systems.

Archival sources, laboratory experiences and field observations are preferred ANT data sources. Field observations were ruled out since the translation process was initiated more than seven years ago. However, I have worked for more than ten years (1991-2001), as a finance manager in the Norwegian health care system, especially in one of the entities studied and as such, I have sufficient knowledge about the setting and some of the actors involved. In addition, the study combines archival sources with interviews. This is because interviews provide supplementary information such as human actors’ awareness (or not) about the role and the power of accounting inscriptions on organizational members’ behaviour and if they express resistance to inscriptions that mould behaviour (Lowe, 2001). Moreover, the interviews can also help to find out more about the power balance between national and local actors.

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<sup>6</sup> Including nonhuman elements



## **Research Design**

A case study approach was chosen to answer the research question. A case study can be defined “*as an empirical inquiry that investigates a contemporary phenomenon within its real life context*” (Yin, 2003, p.13). Within social science research and in particular sociology, case study has been a common research strategy (Yin, 2003). ANT, the theoretical framework of the study, originates from this field (Callon, 1987). Furthermore, Yin adds that case study is especially appropriate when it is difficult to isolate the borders between the phenomenon studied and its environment. This makes a case study design appropriate since ANT explains the outcomes of a translation process in the light of the context in which the change is enacted.

In this study, the context is the organizational setting (different entities) in which the translation of national health care accounting norms takes place. The entities (Regional Health Enterprise and two local Health Enterprises) are represented through the actions of the employees assigned to the task as well as external accounting professionals auditing the entities.

Case studies usually combine data collection methods such as archives, interviews, questionnaires, and observations (Eisenhardt, 1989). The next part describes the rationale behind the data collection that encompasses documentary evidence and interviews. In addition, the section explains how organizational entities and actors were selected for the study.

## **Choice of Accounting Issues**

This part of the empirical method section explains the reasons for focusing on the two following accounting items to study the translation of national health care accounting norms into local health care accounting norms. These items are:

1. Depreciations (including write-offs)
2. Provisions for doctors' statutory leaves

There were five reasons for this selection. The first reason is that, as a consequence of the 2002 Norwegian health care reform, accrual accounting was adopted and as such new costs appeared at the HE level. Prior to the adoption of the reform, the Minister of Health and Care Services from the labour party, who was the driving force of the reform, strongly argued about the necessity to visualize at the hospital level the cost of capital in order to improve decision-making (speech 05.02.2001, [www.odin.no/odinarkiv/norsk/bn.html](http://www.odin.no/odinarkiv/norsk/bn.html)). As such,

depreciation costs are a relevant issue for the study since these new costs have a bearing on hospital financial management.

The second reason is related to how depreciation costs are calculated. Depreciation costs represent measurement issues, where measurement is based on which accounting methods to use to determine these costs. Although the calculation of depreciations follows the Norwegian Accounting Act, the act is more a general law without detailed accounting regulations (Kvifte, 2004, Chapter 6, Tellefsen and Langli, 2005 Chapter 5). As a consequence, there is room for variations regarding the choice of methods that will influence the measurement of the HEs' financial performance. This means that the solutions chosen will be based not only on the accounting framework but also on logical reasoning and rhetoric from participating actors.

The third reason is that depreciation costs stand for a significant part of hospital total costs (7% in 2008) and fulfil the concept of materiality (SAMDATA). The fourth reason is related to the choice of the second accounting issue, which is "provisions for doctors' statutory leaves". This item was chosen because its calculation is based on assessment. Assessment is more subjective than measurement. It is about finding solutions to accounting issues where existing methods or rules are too general or lacking. As such, even if "provisions for doctors' statutory leaves" represents a minor part of hospital total costs, one expects that this accounting issue helps to illustrate the complexity of translation processes since assessments may more probably lead to discussions and the emergence of various points of views. As a consequence, when comparing the outcomes of the translation process of national health care norms (local norms), one can expect variations between the two different HEs. This assumption was confirmed during my preliminary interviews with the RHE staff (finance director and chief accountant interviews, 19.09.2008).

The last reason is related to the use of ANT as a theoretical framework. ANT focuses on power issues and on how actor interactions influence the outcomes of a translation process. The two accounting items selected allow just these kinds of interactions, where the use of rhetoric to convince other actors is a key element. Furthermore, the choice of "provisions for doctors' statutory leaves" as an item selected may provide information about the dynamic between actors. On the one hand, accountants as a group of actors will try to estimate the burden of such costs by calculating provisions based on their own documents (statistics and budgets). On the other hand, the subjects of the provisions (doctors) represent another group of actors with their own agenda and interests.

### **Rationale for Data Collection**

According to ANT, the denomination "actors" includes human and nonhuman elements. In order to visualize the roles and figure out the relationships between the heterogeneous elements involved in the process, two types of data were collected.

The first type of data is interviews (primary data). This is to find out how human elements (participants) interacted during the translation process – not only with one another but also with nonhuman elements, such as accounting guidelines, accounting systems and the like. The interviews help to understand the outcomes of a long-lasting process that was initiated more than seven years ago with the 2002 health care reform.

The second type of data is archival data (secondary data) from different sources. In particular, the archival data includes documents about problematic accounting issues and how they should be treated. At the national level (the central government) it is general information drawing attention to complex accounting issues. At the regional and local levels (RHE and HE), it is more detailed information about accounting procedures and guidelines dealing with these issues within the organizational entity.

Archival data are important for two reasons. The first reason is that archival documents provide information about past events stretching over a seven-year period (2002-2008). This written information can be considered as more reliable than the recognition of events recalled by the interviewees. The second reason is that the role of the nonhuman elements, illustrated by these accounting inscriptions, is as important within ANT as the role played by human elements to describe and explain translation processes and their outcomes.

Furthermore, the combination of two different types of data increases the validity of the study since archival documents can corroborate data collected during the interviews (Yin, 2003, Miles and Huberman, 1994). Multiple sources of information that lead to convergent explanations strengthen the findings of the study.

### **Choice of sample**

This case study has a multiple case design. This means that the study includes several settings and different levels of analysis (Yin (2003). One Regional Health Enterprise (RHE) was selected from among the four existing Regional Health Enterprises (RHE). Two Health Enterprises (HEs) were chosen within the selected RHE.

Each HE is the subject of an individual case study, but the study as a whole includes two HEs and as such, uses a multiple-case design. A main argument for choosing multiple cases is to follow “*replication*” logic (Yin, 2003, p.47). In this study, the replication logic is intended to explain contrasting results with predictable reasons (Yin, 2003). This is because the variations in the composition of the local actor networks during the translation process may lead to variations in local accounting norms.

At the regional level, the RHE chosen is called Health Region West (HRW). Health Region West (HRW) is one of the four RHEs (five before 2007). According to Østergren, HRW

*“resembles an internal market with autonomous subsidiaries”* while she likens another RHE, called Health Region East (HRE), to a *“business concern”* (Østergren, 2009, p 173). HRE is currently the biggest, since it is the result of a fusion between two RHEs. However, the concept of *“autonomous subsidiary”*, applied to HRW, implies the possibility for more variations regarding differences between the HEs’ local accounting norms. Besides, when HRE is excluded, due to its business-like structure, HRW is the biggest of the RHEs in terms of operating expenses (SAMDATA). As such, the size criterion also makes HRW interesting when studying accounting change processes seen as translations.

### **Choice of the HEs**

Within HRW, *“Helse Bergen”* (HB) and *“Helse Fonna”* (HF) were selected as two relevant HEs. Helse Bergen (HB), located in Bergen, is the biggest of the HEs and again the size criterion was a good reason to choose this HE. Hammersley and Atkinson (1995) said that trivial factors could be reasons for the selection of a case. I worked as a financial director for more than ten years in the second HE, *“Helse Fonna”* (HF), which is located in Haugesund. As such, I have sufficient knowledge of the organization and easy access to information and to respondents. Furthermore, I knew that most of the accounting personnel in *“Helse Fonna”* had been employed for over seven years and therefore were knowledgeable about the whole translation process.

### **Choice of Interviewees**

The selection includes twelve interviewees. The sample is divided into three categories of actors. Two of the categories include employees within HRW, while the last category is represented by an external auditor assigned to HRW. The twelve persons were judged as representative to illustrate the description of the process of translating national health care accounting norms into local accounting norms. Twelve interviews were conducted during fall 2008 lasting from half an hour to two hours. Transcripts were produced amounting to approximately 180 pages. Quotations from the interviews were translated from Norwegian to English by the author. During fall 2010, emails were sent and follow-up calls were made to some of the respondents in order to verify the empirical findings. For more details see Appendix 1, page 31.

The first category of actors encompassed accounting staff at two organizational levels (regional and local). At the regional level, the finance director and the chief accountant from HRW were selected since they are the link between the central government (the Ministry of Health and Care Service) and the HEs. In particular, the chief accountant had a detailed knowledge about accounting procedures and guidelines. At the local level, finance directors and chief accountants from the HEs were relevant representatives, especially the chief accountants who are responsible for the formulation of local accounting norms within the HEs. The sample also incorporated accounting employees and controllers from the two HEs

as controllers, but was also dependant on the internal organizational structure, playing a role in the calculations of the accounting items selected. Within the sub-categories, I selected employees within the HEs with as similar backgrounds as possible (education and experience) since these factors can have an impact on the translation of national health care accounting norms.

The second category of interviewees regrouped two clinic directors from each HE. Clinic directors are responsible for the clinic's financial position. Their selection was based on their medical background (doctors) and on the fact that they had been employed in their respective HEs prior to the accrual accounting implementation (2002). They are a part of the sample as I was interested to find out if the translation process also involved leaders (actors) without an accounting background. This is because the introduction of accrual accounting was one of the new accountability tools of the 2002 Norwegian health care reform to improve local leaders' decision-making. Furthermore, one of the two accounting items was "provisions for doctors' statutory leaves". As such, one can expect clinic director involvement in the translation process and perhaps their influence on the outcomes.

The third category of the sample is represented by an auditor from the auditing firm assigned to HRW and the HEs. The auditor was selected since he had been involved from the start of the implementation process of accrual accounting (2002). He also represented accounting expertise as he was the only person with a broad knowledge from national and international private sector accounting standards and practice as well as health care specificities. Moreover, I needed to corroborate some of the statements from the respondents with an external source of information.

The next section provides details about the type of interview chosen for the study.

### **Choice of Interview Type**

True to the ANT methodology, the purpose of the interviews was to let the actors involved tell their story about the translation process of national health care accounting norms based on their recognition of events. Bonner and Chiasson (2005) argued that the ANT principle of following the actors (actants) sounds easy, however it is empirically difficult to obey.

The type of interviews chosen for the study was semi-structured interviews. This type of interview allows room for the respondents to follow their "own story", while securing the necessary information to describe and analyse the process. Moreover, it enables comparisons to be made between the two HEs, since the interviews were based on specific topics on which the respondents have to talk. The interviews were structured around four different themes to

provide answers to the research question. The themes covered the description of the process, the use of accounting inscriptions, the relationships between the actors (groups of actors) involved and the constitution of new organizational knowledge (see Appendix 2, p. 32). As the interviews progressed, supplementary archival documents were collected to provide detailed information on the technicalities of the translation as well as to confirm the respondents' statements.

There are two caveats related to the rationale for data collection and in particular to the choice of interview. These caveats are similar to the ones mentioned in Quattrone and Hopper's 2006 study. The first caveat is that the respondents have to recall past events from as far back as 2002, when accrual accounting was introduced into the Norwegian public sector's setting. The second caveat is that the quotations from the respondents may be selected to illustrate a story designed to fit the aim of the researcher, rather than to picture an objective view of the translation process. However, email and telephone contacts with several respondents<sup>7</sup> were made two years after the interviews (fall 2010) in order to verify my description and analysis of the process. Furthermore, I also spoke with the head of the department at the Ministry of Health and Care Services to corroborate the follow-up answers from these emails and telephone calls (October 2010).

Nonetheless, the choice of ANT as the theoretical framework emphasizes the strength of this type of empirical study, which is its capacity to contribute empirically to a better knowledge about accounting change processes and their outcomes, even if it may display weaknesses on validity issues.

## The translation of national health care accounting norms into local health care accounting norms

For Latour (1991), the description and explanation of socio-technical networks did not need to be separate since the outcomes of a scientific/technical innovation are contingent on the context of its introduction. As such, the empirical study focuses on telling a story about the translation of national health care accounting norms into local health care accounting norms within the Norwegian public sector setting. The story follows actors and actants (accounting inscriptions) based on the data collected from the RHE (HRW) and two local HEs (Alcouffe et al., 2008).

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<sup>7</sup> The chief accountant of HWR, the chief accountant of Helse Bergen and the controller of Helse Fonna

ANT's four phases of translation (problematization, interessement, enrolment and mobilization) are used to visualize and simplify the description of a complex translation process with reflective comments at the end of each phase. However, the phases do not necessarily represent the timeline of the translation process (2002-2008) since partial translations can be run in parallel based on the local actor-networks and the variety of accounting issues to be treated. This is because, as the translation process went on, the complexity increased as new accounting issues were unravelled that had to be translated within the specificities of the health care setting, such as "capitalizing" versus "expensing" costs or the calculation of provisions for doctors' mandatory leaves. The accounting solutions kept transforming as the actors (RHE, HEs and external auditors) involved gained expertise within the new setting that gave them new insight and as such increased the complexity and the scope of the translation. The phases are more like activities that have to be completed to achieve tangible outcomes (new local norms).

### **Problematization**

After the adoption of the 2002 health care reform, at the national level the Ministry of Health and Care Services was in charge of the implementation of accrual accounting within the Norwegian health care setting. The implementation start was January 2002. Implementing accrual accounting within a public sector setting meant to translate private sector accounting norms into new national health care accounting norms, which would be the basis for the further translation of these norms into detailed local accounting norms in order to report hospital financial information. However, the central government met resistance on its translation of private sector accounting norms and the process went on for more than three years before it was settled (2005). During this time period (2002-2005), the process of translating national norms into local norms was driven in parallel and delegated to the Regional Health Enterprises (RHE). The separation of tasks was logical as hospital financial figures are first consolidated at the regional level under the RHEs responsibility.

At the regional level, within HWR, the study shows that the translation of national health care accounting norms was delegated to the chief accountant. At the beginning of the translation process (called problematization) the chief accountant in cooperation with the Ministry of Health and Care Services set the pace and the scope of the translation. The scope of the translation was defined as the problematization area, which is the accounting issue on which one focuses. During the first years of the process, accounting employees from different organizational levels within HRW were gathered in seminars during the annual balance of accounts in order to ensure a broad involvement.

In recent years, the need for such courses has become redundant and the translation process has been organized on a hierarchical basis involving principally the HRW's chief accountant and the HEs chief accountants (email, HRW's chief accountant, 2008). However, HRW can contact the Ministry of Health and Care Services if accounting issues arise that cannot be solved at the regional level (interviews, chief accountant and finance director, September,

2008). The chief accountant has also involved the auditing company assigned to HRW to assist her in the process. As such, the translation of national health care accounting norms into local norms has been concentrated in the hands of a few actors within and outside HRW's boundaries (e-mail and interview HRW's chief accountant, 2008). These actors are mostly health care accounting professionals assisted by private sector auditors.

### **External expertise is associated with the problem**

Whenever a change of methods or principles arises, based on the new accrual accounting framework, the HEs' chief accountants, in accordance with their respective finance directors, contact the HRW's chief accountant to debate and rule on the specific matter (interviews November 2008, chief accountants and finance directors). Since the accounting issues are complex and the new national health care accounting norms are based on private sector standards and principles, the HRW's chief accountant, having a public sector accounting background, relied on private sector's auditors that were assigned to the respective HEs, since they possessed the needed expertise. The chief accountant from Helse Bergen put it this way:

*“The change process with the health care reform has been driven through the auditing companies. The fact that you get an auditing report with red lights that will be sent to the board gets a very top focus. Here are red lights and they have to disappear and this has driven the change process at least in the first three, four years; the red lights they have to go; that's the main focus”* (interview chief accountant, November 2008).

In ANT terms, the translation of national health care accounting norms into local health care norms can be assimilated to the “problem” to solve. The HRW's chief accountant selects actors that she associates with this “problem” and gives them roles in order to find a solution to the problem (new local accounting norms). However, because she lacks the private sector expertise it is the associated members (auditors) who steer the translation process, even though the HRW's chief accountant has defined herself as an obligatory point of passage (OPP) in the relationships she has built.

In this study, the HRW's chief accountant is assimilated to an OPP since she has stated that whatever the accounting issue is, the actors involved have to contact her to agree on a solution. However, the auditors can also be defined as an OPP. This is because they are the private sector accounting experts and as such they are the ones from whom the chief accountant, and the HEs chief accountant, seek help and guidance. As a consequence, the auditors have an important role in shaping the course taken by the translation process.



## What is Problematic or Not

The process of translating national health care accounting norms has not followed a linear path. This can be illustrated with the calculation of depreciation costs, which is one of the two accounting items selected for the empirical study.

In the beginning of the process, the focus was to calculate depreciation costs based on the value of the opening balance sheet's fixed assets. However, as the translation progressed, new challenges were unravelled. For example, how to value separately the different components of a building such as the roof or the windows since their life expectancy is often shorter than the life expectancy of the whole building. As such, one needs to calculate separate depreciation costs for these elements. Seven years after the start of the construction (2008), this important issue was not yet settled. The HRW's chief accountant stated:

*" For major replacements we are working on common guidelines that will enable us to separate one of the elements of a building that needs replacing (roof or windows) when it has not been separated before in the opening balance sheet. What is the remaining value that has to be depreciated? The guidelines are also debated with the other RHEs...From 01.01.2009 roof and windows for new buildings will be separated similarly to the elements listed previously by the Ministry of Health and Care Services."*  
(Interview, September 2008)

To enable the progression of the translation, the chief accountant focused first on the basic issues such as the sheer calculation of depreciation costs. After acquiring some expertise with the translation of the national health care accounting norms, she was able to increase, what is called in ANT terms, the "problematization area" to more demanding accounting challenges such as the one described above.

In ANT, HRW, as represented by the chief accountant, is the one who defines the boundaries of the problematization area. This means that she decides what is to be included in the translation and what is to be left out or in the dark (Callon, 1980). Callon (1980) pointed out that a hierarchical relationship often exists regarding areas of problematization and that the acceptance of the problematization's area is contingent on the balance of power between involved actors. This can be illustrated by two examples from the empirical study.

The first example is related to the calculation of depreciation costs. Depreciation costs are a new type of costs introduced at the hospital level. Although the boundaries of the problematization's area are set by the HRW's chief accountant, it seems that the HEs called for a quicker pace in developing the problematization area towards more complex issues that lack common procedures. When asked if chief accountants and finance directors felt that HRW let them decide the pace of translation of the national accounting norms, regarding depreciation costs, or if they felt pressure to work faster, the finance director of Helse Fonna gave the following answer:

*“Good question. ...yes we work at our own pace. Sometimes I feel that we can do what we want. We lack detailed guidelines on how things should be handled...I wish we could have had stronger guidance within depreciations from our owners than what is the case at present. However, we are starting to look into it now, so I reckon there will be stronger guidance in the future” (Interview, November, 2008).*

From the answer, it appears that the HRW’s chief accountant’s pace to widen the problematization area was slower than what the lower organizational level desired and needed. This is because the lower organizational level is the level where national health care accounting norms are enacted on a day-to-day basis. It is at this level that accounting challenges are encountered and have to be solved. In line with ANT assumptions, the hierarchical relationships and the power balance between the HRW’s chief accountant and the HEs accounting personal enabled the chief accountant to control the pace and the boundaries of the translation. It means that, though relevant accounting issues should have been dealt with according to local needs, they were postponed until she was ready to do so.

The second example is related to the provisions for doctors’ mandatory leaves. Helse Bergen’s chief accountant answers the same question as above but related to the provisions for doctors’ mandatory leaves. His answer confirms the relationship between the pace of the translation and the power balance between organizational actors:

*“Yes. Yes really, we have controlled much of the process... The interviewer asked: “You were not sure?” He answered “No. It is a little bit awkward because we thought of changing our provision’s practice (read. reducing the provision with 20 %) a year before but it is important that we have a common practice within HRW so this can sometimes sink the whole process” (Helse Bergen chief accountant, November, 2008).*

In this example, the pace to extend the problematization’s area towards more detailed and accurate norms was also criticized by the HEs. In ANT terms, they were not allowed to reduce the provision, although they had previous accounting figures supporting their decision, before the change complied with the HRW’s chief accountant’s goals.

These findings and the following examples support Callon’s comparison of the problematization phase with the phenomenon of black boxing, where some elements are problematized, while other elements are taken for granted. The statement of the chief accountant of Helse Bergen illustrates the black boxing phenomena:

*” The calculation of depreciation costs has been ok. What has been a challenge is the opening balance and the final valuations since the Ministry of Health and Care Services was very keen on the fact that depreciation costs should not be so expensive and repeatedly tried to reduce them, even though, I think, it was not in accordance with the Norwegian Act and there were many meetings with the auditing companies and in the end they agreed on a way to do it that, I think, is a little bit of a grey area.... I reckon it is a little weird when one agrees to follow the Norwegian Act and then chooses to adjust it a*

*little to fit with what is convenient for the Ministry of Health*". The Interviewer asked further: "Do you mean that even if it was finally decided that the Norwegian Act should be followed, the final valuations were lower than expected?" "Yes, for buildings they were. Maybe not down to 2/3 of replacement cost, maybe 3/4, I do not remember, but they were pushed down to the initial valuations" (Helse Bergen chief accountant, November, 2008).

As mentioned before, the two processes of the translation of private sector accounting norms and the translation of national health care accounting norms were driven in parallel during the first 3-5 years (2002-2005). At the national level, the controversy mainly dwelt on which accounting framework and methods should be used to value fixed assets. While accounting professionals (auditors) argued for using methods based on accrual accounting, the central government focused on methods enabling the control of health care budgets. The controversy had a bearing on the calculation of depreciation costs and as such on the translation of national health care norms into local accounting norms. At the regional level, HRW, with the help of the auditing company, tried to black box the calculation of depreciation costs within boundaries set by the central government (the Ministry of Health and Care Services).

The planning of major maintenance is another accounting issue where HRW chooses to deviate from the national health care accounting norms. These norms are based on the private sector's accounting framework<sup>8</sup>. However, HRW will allow the possibility of capitalizing maintenance costs over the maintenance period (for example four years) only when a new common accounting guideline is eventually accepted at the national level (Ministry of Health and Care Services). However, this possibility has been a common alternative for several years according to the Norwegian Act and it is good accounting practice. The chief accountant of Helse Fonna expressed it this way:

*"...This four-year period has not been an issue before. This is something new that will come with the new guideline from the Ministry*". The Interviewer pointed out the following:

*"But this is a practice that has been allowed according to good accounting practice". The chief accountant replied: "But we have not been allowed. We do not follow the Norwegian Act 100%... We have to follow what is decided by the Ministry in addition to the Norwegian Act"* (Helse Fonna, chief accountant, November, 2008).

As a summary of this phase, according to ANT, the process of translation of national health care accounting norms is characterized by the use of OPP and black boxes that are created, reopened, and closed as often as deemed necessary. Supporting ANT assumptions, the HRW's chief accountant restrains or expands the problematization area with the use of black boxes to control the process according to HRW's goals and interests. This was possible because the chief accountant was in a power position to do so with her hierarchical position.

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<sup>8</sup> The Norwegian Accounting Act and the related standards

## **Interessement**

According to ANT terminology, HRW has to ensure, during the interessement phase, that the participants selected follow HWR's designated path. Building networks is a strategy to secure this path. However, since the legislation, on which the translation is based, was imported from another setting (the private sector), HWR has to translate this legislation through successive adjustments and interpretations in order to comply with the specificities of the public sector health care context. As such, close monitoring of the networks is necessary to keep the translation on the HWR track.

## **The Creation of Networks**

As described previously, the translation of national health care accounting norms, exemplified through the case of HRW, which is one of the four RHEs, was organized hierarchically. As such, the participation of the actors selected was mandatory and the participants had, so it seems, no other alternative than being a part of it.

HRW structured the translation not only through the creation of vertical (hierarchical) networks but also through horizontal (collegial) networks of accounting professionals. The accounting professionals were mainly organizational actors such as the chief accountants from the HEs. Moreover, there were accounting professionals from outside the organization boundaries since private sector auditor expertise was greatly needed. Although the vertical network was controlled by HRW at the regional level, it principally included local participants from the HEs. At a lower organizational level, local networks were also created. These local networks included participants with different educational backgrounds contributing to variations in the translation's outcomes. Even though the local networks were under the hegemony of accounting professionals, they were neither organized nor controlled by HRW.

## **Regional Network**

From the beginning of the process, HRW established its own network of accounting professionals to carry out the translation. The frequency of the meetings for the network participants varied with a stronger intensity during the first years of the process. The chief accountant from Helse Fonna explained:

*"...at the start it was quite often, maybe 4 or 5 times a year. In recent years we have reduced the number of "physical" meetings replacing them with telephone meetings or e-mails. This is because there are now fewer things we are unsure about and fewer issues on which we are not coordinated"* (Helse Fonna, chief accountant, November 2008).

The meetings that gathered chief accountants from regional and local levels deal with accounting principles, problematic issues (consolidation) and the use of common accounting systems. In addition to planned meetings, current practice has been that local members of the

network systematically contact the HRW's chief accountant as soon as accounting issues that need to be discussed arise. She often makes sure of the collegial involvement of the other members of the network (chief accountants from the other HEs) by emailing them in order to involve them in the discussion and warrant their acceptance of the solutions chosen. However, the involvement of auditors is not as systematic, depending on the complexity of the issues discussed (Helse Fonna, chief accountant, November 2008).

Though the translation is structured hierarchically, the significance of HRW's role in the process is a debated issue among the participants. When asked about HRW's leading role regarding the calculation of the depreciation costs, which is one of the central accounting issues, the chief accountant of Helse Bergen said the following:

*"Health Region West has a leading role when it comes to life expectancies of fixed assets as well as everything that has to do with the opening balance sheet valuations but beyond this, they do not have a leading role as it is very clearly stated in the legislation and that there is not much beyond it.... We can not go outside the boundaries that are there, and they are leading. .... it is the general accounting rules that are relevant and when we discuss them with HRW, it is related to interpretations based on the existing accounting legislation. HRW is in control in a sense but it is the accounting legislation that is normative"* (Helse Bergen chief accountant, November 2008).

The interviewer then asked if the auditing company role is normative since it is the auditors who provide interpretations to the legislation. The chief accountant replied:

*"Yes. We work a lot together with the auditing company. And if there are things we are unsure of, we talk to them. And then maybe they say: no, here you should do like this, and we always follow their recommendations"* (Helse Bergen chief accountant, November 2008).

The importance of the auditing company's role in the HRW network was confirmed through the statement of the finance director of Helse Fonna when asked if he felt that the auditing company was first and foremost loyal to HRW:

*"...I feel that Health Region West, without being 100% sure, that Health Region West, as an organization, is following very closely what the auditing company says without always considering the consequences it may have on the HEs. I could sometimes wish for more flexibility from the auditing company and Health Region West regarding the effects on the HEs' income instead of being very determined about the way things can be done"* (Interview, November 2008).

## **Local Networks**

The composition of local networks shows variations regarding the type of expertise included within the networks. This is illustrated by the statement of the finance director of Helse Fonna about the calculation of depreciation costs:

*"In the future, the ones who should work with this are, as I can see it, the chief accountant as well as her staff. They should have stronger overview and control than today's situation.... I reckon that a "controller" can skip this type of work because for me a controller should focus more forwards than*

*backwards, which is the case for accounting issues... and of course auditors as well and the technical department will offer suggestions but not more than that” (Helse Fonna finance director, November 2008).*

On the other hand, Helse Bergen has based the calculation of depreciation costs on a broader organizational involvement since it is a controller, located within the technical department, who is in charge of their calculation, in collaboration with the chief accountant. The technical department, which includes engineers and the like, is responsible for the assessments regarding capitalizing vs. expensing costs related to fixed asset components.

Next, the interviewer asked Helse Fonna’s chief accountant if the technical department had the knowledge to be involved at an earlier stage of the calculations of depreciation costs. He answered: *“No. I do not think they have.”* The interviewer asked: *“Do you think this is a problem then?”* He replied: *“No. Not as long as we have a finance director who supports the accounting department about how things should be... Then the technical department has to act according to the existing legislation”.* The interviewer asked: *“Don’t you miss more involvement if they had the knowledge?”* The chief accountant explained:

*“Yes, it would have been a benefit. ...it is possible that we can manage to work towards a common purpose, I think so. By having more frequent meetings, discussions, to include them... But I was surprised the other day when I got an email from the head of the technical department who did not know that buildings were capitalized in different components. This has been done for many years and we have not kept this as a secret and they have been involved. But it is obvious that they have not been updated on how depreciations work” (Helse Fonna chief accountant, November 2008).*

Concerning provisions for doctors’ mandatory leaves<sup>9</sup>, Helse Bergen also chooses to work on an interdisciplinary basis by involving the Human Resources department. This solution was not adopted by Helse Fonna. Regarding the involvement of employees with a medical background, both HEs reduced it to a minimum and the heads of clinical departments are only peripherally involved in the translation process.

According to ANT, during the intersement phase HRW built the necessary alliances to translate national health care accounting norms by establishing its own network of accounting professionals. To secure the intersement of the selected actors, HRW combined different strategies. The main strategy was based on HRW’s hierarchical position with compulsory meetings and mandatory documents describing how specific accounting procedures such as capitalization vs. expense of costs have to be treated. This strategy was combined with a more informal one based on dialog and wide-open discussions channels (telephone, emails) within and outside the organizational boundaries.

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<sup>9</sup> Which is the second selected accounting issue

Furthermore, HRW controlled the behaviour of selected actors through auditing reports and meetings with the auditing company. Unlike what was described by Callon (1986) under this phase, the network participants were not in the position to refuse the roles attributed to them either because they belonged to a lower hierarchical level or had a business relationship with HRW (auditors). Nevertheless, one drastic exit possibility (to quit the job) was available for organizational actors who disagreed with the decisions made by HRW. This exit was chosen by the finance director of Helse Bergen at the end of 2008 (Interview, November, 2008).

According to ANT, HRW only needed to include a few actors during the translation process, as long as they were representative (Callon, 1986). HRW and in particular one of the HEs (Helse Fonna) selected accountants as the organization's representatives even if the involvement of other organizational members such as clinical managers would have secured broader organizational involvement and as such would help to provide a better basis for decision-making. As a matter of fact, based on the two HE cases, the empirical study reveals that depreciation costs, which show the cost of capital such as medical equipment, were not included in the clinics' budgets. They were kept at an aggregate level under the supervision of accounting professionals. However, better decision-making at the local level was one the two tenets of the 2002 Norwegian health care reform.

The next section describes and explains how nonhuman elements are associated with the translation process of national health care accounting norms in order to channel the outcomes within the national goals of budget control.

## **Enrolment**

During the enrolment phase, the maintenance and the coherence of the networks constructed have to be continually monitored. This can be achieved through the use of nonhuman elements such as various accounting devices. This is especially true in the empirical study, since the frequency of the meetings among members of the regional network was irregular with the exception of the yearly closing of the accounts. Moreover, the contacts between network members were organized on a voluntary basis, whenever a member felt that he/she needed guidance.

## **The Role of nonhuman elements**

Combined with human actors, nonhuman elements (defined as inscriptions) are associated with the translation of national health care accounting norms. In particular, three types of inscriptions can be traced throughout the translation process. These nonhuman elements are called inscriptions since they have the capacity to inscribe and convey information back and

forth between the local level (HEs), the regional level (HWR) and the national level (the central government) since the Ministry of Health and Care Services is the formal owner of health care. As such, they erased the notions of macro or micro levels.

*The first type of inscriptions* includes accounting documents issued by HRW or by the Ministry of Health and Care Services and addressed to the HEs. A central inscription is the 2001 accounting guideline, which was the first document issued 5 months before the implementation start (01.01.2002). With the exception of the 2001 guideline, the other documents were issued on a sporadic basis, whenever the need to clarify an issue arose. However, there is a new updated and detailed accounting guideline common for all the RHEs to come. At the end of 2010, the guideline was still under approval at the central government level (telephone call, head of department at the Ministry of Health and Care Services, October, 2010).

However, the role of these inscriptions is debated. Regarding the calculation of depreciation costs, accountants describe the existing information as scattered between too many documents and not always updated with regard to the latest accounting procedure or change in the legislation. For the provisions for doctors' mandatory leaves, its recording is not even regulated through central inscriptions. As a consequence, informal local accounting norms may develop based on meetings and discussions, yet under the support and supervision of the auditing company.

When asked about the importance of the 2001 accounting guideline regarding the calculation of depreciation costs, the chief accountant from Helse Bergen said: *"Well, it plays an important role for separating the different elements of a building and their related life expectancies. But beyond that, it plays a minor role"*. The interviewer asked: *"Has its role been modified throughout the years?"* The chief accountant replied: *"No. It is important to have an accounting guideline, I guess, but one preferably uses the accounting legislation such as the Bookkeeping Act. I don't even know if the accounting guideline has been updated for example according to the new Bookkeeping Act. And if it isn't, it has a limited value". .... Norwegian and international accounting standards keep changing and it is specified in the Health Enterprise Act that we must follow the Norwegian Accounting Act and the related accounting standards and that is what must be our primarily guidelines. So such an accounting guideline from the Ministry of Health and Care Services only comes as an additional tool."* (Helse Bergen, chief accountant, November 2008).

His point of view about the limited importance of the existing accounting guideline was confirmed by the other chief accountant from Helse Fonna: *"Not this accounting guideline. We have so many documents. But it will be great when we get the new one because then everything will be gathered there, so you can refer to it. Instead of now, when we have discussions, I have to look through the different documents and find on my own where I can refer to, if I need to argument for a specific solution"*. The interviewer asked if it was true that they had had various accounting procedures since the implementation's start that they had to leaf through? *"Yes, however she (read: HRW's chief*



accountant) informs us. *If there is something, we always call her and agree on a solution and then she can refer to what the new accounting guideline will mean.*" (Helse Fonna, chief accountant, November 2008).

For provisions for doctors' mandatory leaves, the chief accountant from Helse Fonna meant that the accounting guideline had no importance whatsoever. What mattered was yearly auditing meetings with HRW. The HEs' procedures would be compared and discussed with the auditing company and HRW to agree about how provisions should be calculated (Helse Fonna, chief accountant, November 2008).

*The second type of inscription* is the IT-based accounting systems used to record hospitals transactions. Depreciation costs are calculated and recorded through IT-based systems. However, the IT procedures are flexible and can be overridden. For example, the life expectancy of a given fixed asset can be modified if there are specific reasons to do so. However, there are guidelines to follow and the modifications done by the HEs will be controlled by the auditing company.

*The third type of inscriptions* is the chart of accounts. The common chart of accounts has been developed at the national level. This inscription is controversial among the HE accounting professionals. The chief accountant of Helse Bergen explains his scepticism:

*"... This year we have achieved a common chart of accounts and this has been very important for the Ministry of health and Care Services and for HRW..... Yet we cannot fully understand the purpose of it because we mean that a chart of accounts should be based on the organization's information needs and this can vary from one HE to the other.... Why we must have the same chart; I can not understand the reason, unless because it simplifies the reporting to the Ministry of Health and Care Services and that it enables the Ministry to get what they believe is important. So there are things that are centrally driven, that have to be equal for everybody, yet are based on a unilateral focus about what the Ministry of Health and Care Services needs at this specific moment, and not on what is best for the financial management of the HEs"* (Helse Bergen, chief accountant, November , 2008).

According to ANT assumptions, the shift from the interessement to the enrolment of actors in a translation process is characterized by the use of various inscriptions. Inscriptions are the tools, which enable the transformation of postulates that are formulated during the problematization phase into facts (Linderoth, 1991). During the translation process, the regional and national actors (HWR and the Ministry of Health and Care Services) are the central agencies which use and combine different types of inscriptions to channel local actor behaviour towards a desired purpose. The inscriptions, being mandatory, have to be taken for granted by the participants involved. The combination of inscriptions such as a common accounting guideline, a common IT system and a common chart of accounts strengthens the central agencies' power about how the local accounting norms should be. Furthermore, the use of inscriptions links together the involved actors affirming and stabilizing their roles in and throughout the translation.

During the enrolment phase, the main actor has to make sure that network members accept the role to which they are attributed during the translation process. As such, it may lead to “*trials of strength and tricks*” (Callon, 1986, p.211). This can be illustrated with the following example. Within the private sector, the practice for capitalizing a fixed asset (or expensing it) is based on tax rules. It means that if an asset costs more than NOK 15,000 and has an expected life expectancy over three years it can be capitalized. However, the central government did its own translation within Norwegian health care by increasing the amount to NOK 50,000. Four years later (in 2006), HRW decided to double the amount to NOK 100,000; a contested decision based on the interviews with the two HEs’ chief accountants. At that time, Helse Fonna’s finance director refused to accept the change and kept capitalizing fixed assets based on the previous amount of NOK 50,000. She believed that the HEs had the right to make their own translations and that the new limit had a negative impact on HE net income (Helse Fonna, chief accountant, November 2008). The result of the trial of strength was an injunction from HRW to follow the new limit resulting in extra work for the accounting staff, since they had to reverse what they had just done.

## **Mobilization**

Within ANT, MOBILIZATION is the last phase of a translation process, where the initiator of the change process has to make sure that the actors enrolled stand for the groups they represent (Callon, 1986). This is because the strength of the constituted network (s) depends on these actors.

The translation of national health care accounting norms into local accounting norms involves three organizational levels (national, regional and local). The translation process is structured according to hierarchical and functional relationships, which also include relationships outside the organizational boundaries (private sector auditors). At the national level, the Ministry of Health and Care Services’ role seems to keep an overview on the progression of the translation as well as an arbitrage role if necessary.

According to the HRW’s chief accountant, the Ministry of Health and Care Services’ main concern was to obtain comparable financial statements without interfering in the details of the translation. According to her, it is the RHEs that initiate discussions between national and regional levels and as long as the outcomes are within the legislation’s boundaries, the Ministry of Health and Care Services does not interfere. However, she adds the following: “*But if we do not agree, the Ministry of Health and Care Services has to be involved and sometimes they will have an opinion and sometimes not*” (HRW’s chief accountant, September 2008). However, neither the HRW’s chief accountant nor the finance director could provide examples of issues that needed the Ministry of Health and Care Services’ arbitrage. They could also not recall the grounds that could trigger interference from the Ministry.

At the regional level, HRW does not control the translation in detail. The responsibility is delegated to the chief accountants of the HEs. However, as a central agency, HWR needs to ensure that local accounting norms are homogeneous in order to produce comparable financial information within the RHE: *“What is agreed with the auditing company (we have exerted pressure on them) is that whenever there are specific assessments they have to be reported to me to ensure that everybody within the region has received the same information”* (HRW’s chief accountant, September, 2008).

How assessment issues are controlled is illustrated with the calculations for provisions for doctors’ statutory leaves: *“... Methods for calculating major provisions are discussed every year between the chief accountants, the finance directors, and the auditing company. We take the “grand tour”: this is what happened in Helse Fonna, this is what happened in Helse Bergen, and so on; with figures, calculations, and consequences. It has to be done in the same way and those who have not done so must return and do it once again. It is the auditors who show what they have found”*(HRW’s chief accountant, September, 2008).

Another example is the calculations of depreciation costs: *“HRW does not control at all. So they trust us to follow the given guidelines but maybe the auditing company will. But if there are major differences between budget and financial figures then we have to explain to HRW and then things can come up to the surface if there are major differences”* (Helse Fonna, Chief accountant, November 2008).

However, based on the empirical data, it is the auditing company that does the control function for HRW. The auditing company also does another type of control, which is to warrant that HRW’s translation of national health care accounting norms into local health care accounting norms is truthful to the accrual accounting framework. The following statement from the HRW’s finance director about auditors supports this assumption: *“...Well I would rather say to check that what we do is within what they believe is OK. That our understanding is correct so we do not risk doing it one more time”* (HRW’s finance director, September 2008). As such, auditors strongly influence how local accounting norms should be.

At the local level, the organization of the translation replicates the one at the regional level. Throughout the translation process, accounting professionals both within and outside the organization work closely together. Yet, local variations can be traced since Helse Bergen includes organizational members without an accounting background, such as technicians or HR employees that help in the translation of national health care accounting norms.

According to ANT, during the mobilization phase it is crucial that the actors involved are representatives. For HRW, being representative actors’ means doing what is expected from the central agencies and not first and foremost being representative for the organizational entities to which the actors belong (the HES). At regional level, the central agency is HRW and, at the national level, the formal owner of health care, which is the Ministry of Health and Care Services. This means that the translation is channelled more towards the fulfilment of central needs (comparable information and control) than on local needs (decision-making). As

such, the representatives selected by HRW are accounting professionals (chief accountants from the HEs)

However, it is the auditors who are the true representatives of the translation of national health care accounting norms and not the HEs' chief accountants, who can be described as "*supposed spokesmen*" (Callon, 1986, p. 216). This is because both HRW and the HEs consider the auditors as the experts of the accrual accounting framework and as such let them translate the legislation directly or indirectly by controlling the organizational actors' translation. This may help to explain why the translation process, which was initiated more than eight years ago, is developing at a slow pace.

Furthermore, the RHE and HEs' status as independent entities restrains the Ministry of Health and Care Services' role in the translation. However, inscriptions such as a common chart of account, a common accounting guideline and IT systems become the Ministry of Health and Care Services' representatives in the translation. According to ANT, the specific features of inscriptions enable the central government to influence the outcomes of the translation and force organizational actors onto a specific path, which helps to fulfil central information needs.

The next section provides answers to the research question and a conclusion to the empirical study through the ANT lens.

## Conclusion

The empirical study's purpose is to provide answers to the following research question: **How are national health care accounting norms translated into local health care accounting norms?** The focus is on the translation of the Norwegian national health care accounting norms into local health care accounting norms, viewed as a process of actor network building. Using Actor Network Theory (ANT), the aim of the study is to describe and analyse the translation process in order to provide explanations for its outcomes. In particular, the study draws attention to the role of human and nonhuman actors and their interactions, since findings from accounting research in Nordic countries have visualized accounting practice as an outcome of complex organizational and societal processes. Although this line of research has shown the influence of the context in accounting change processes, previous research has focused solely on the role of human elements (Bergervarn et al., 1995).

The ANT methodology enables one to gain insight on how the current Norwegian local health care accounting norms are the outcomes of dynamic and complex processes involving actors at different organizational levels. The findings especially highlight the interactions between actors and accounting devices, seen as actants, and how these heterogeneous elements are reciprocally transformed towards the constitution of a new organizational knowledge.

There are two main findings from the empirical study.

### **Actor-network and organizational knowledge**

The first finding deals with complexity and organizational knowledge. This is illustrated by the ANT concepts of translation, actor-network and OPP. Actors from three organizational levels<sup>10</sup> with different information needs and priorities were linked together in the translation of the national health care accounting norms. While accrual accounting has now been implemented at the regional and local levels, the formal owner of health care, the Ministry of Health and Care Services, still operates at the national level using a cash accounting rationale focusing on resources control. Especially during the first 3-5 years of the process, the uncertainty about whether the national health care accounting norms would be based on the accrual accounting framework or not caused controversies that influenced the pace of the translation. This was confirmed in the empirical study by the chief accountant of Helse Bergen when depreciations costs had to be calculated.

The pace of the translation was also influenced by the two following factors. The first factor is that accrual accounting's direct application is difficult in a public sector setting, where profit is not the aim. Furthermore, the accounting act itself, the Norwegian Accounting Act, is not a detailed act and its standards are based on private sector mechanisms and concepts. As such, health care accounting issues had to be assessed in the context. Interpretations (translations) were needed so that the local norms could provide appropriate guidance about how health care accounting should be. As a consequence, regional and local actors gradually built a new organizational knowledge to be able to translate the national accounting norms.

The second factor influencing the pace of the translation was that HRW used an approach based on cooperation and involvement. The concept of translation and in particular the problematization phase visualizes how the organizational knowledge increases step-wise. More and more complex accounting issues are taken up for discussion and become ready to be translated. This is illustrated, in the empirical study, by the gradual decomposition of fixed assets into different elements (windows and so on) in order to calculate more accurate depreciation costs or with the debate about the capitalization or not of major maintenance expenses. The concept of actor-network illustrates the dynamic to secure organizational members' involvement. However, the empirical study showed variations at the HE level where Helse Bergen's actor-network was based on a broader involvement as actors from different departments were associated with the translation.

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<sup>10</sup> National, regional and local

Furthermore, the concept of OPP provides additional insight. The chief accountant was seen as an OPP since she wanted to secure the participation of most organizational members and learn from the process. To do so, she made sure that she was updated about new translations so that this information would be further distributed within HRW, even if it influenced the pace and the outcomes (local norms). In the empirical study, Helse Bergen was not allowed to change the calculation of the provisions for doctors' mandatory leaves since HRW first and foremost focused on a common practice within the HE, even if it meant less accuracy in the short-term. Auditors were also seen as OPPs, since both HRW and the HEs heavily depended and relied on their expertise. As such, the involvement of actors outside the organizational boundaries also influenced the pace of the translation and the outcomes.

Contrary to previous ANT accounting studies about NPM reforms and organizational knowledge (Skærbæk, 2009; Christensen et al., 2007; Gendron et al., 2007; Skærbæk et al., 2007), this study shows that it is local actors who progressively build a new organizational knowledge through the use of supporting networks both inside and outside public sector boundaries. Moreover, while previous accounting studies have emphasized the central role of public sector auditors during accounting change processes, in this study, it is the private sector auditors who help organizational members to build this knowledge (Skærbæk, 2009, Skærbæk et al., 2007 and Gendron et al., 2007). At the same time, the private sector auditors were able to widen their field of expertise to the public sector. However, the involvement of the private sector auditors instead of the public sector auditors might limit the possibilities of transferring the newly constituted knowledge to other parts of the Norwegian public sector such as Education.

### **The constitutive role of actants**

The second finding deals with the constitutive role of nonhuman elements seen as actants. This is illustrated with the ANT concepts of actants, especially the inscriptions: translation and black box. Nonhuman elements play a central role in the translation of national health care accounting norms for two reasons.

First, nonhuman elements, defined as inscriptions, erase the macro/micro levels and enable control at a distance. The central government (the Ministry of Health and Care Services) is the formal owner of the health care sector and needs financial information about hospital performance in order to control their use of resources. However, the 2002 Norwegian health care reform introduced a decentralized model, where hospitals were reorganized into autonomous entities (HEs) under a regional administrative entity (RHE). This decentralized structure limits central government's possibilities to interfere on the management of HEs. Therefore, the translation of national health care accounting norms has to be based on cooperation between the national level and the regional/local levels, where involved actors have to agree on the outcomes (local accounting norms). As such, the finding emphasized the relevance of ANT to look into long-lasting social processes and the interactions of

organizational actors in order to agree on the creation of new accounting numbers (Chua, 1995).

However, to secure that the local norms comply with the central needs of comparability and budget control, the CG used accounting devices, seen as inscriptions, which would enable control ...but from a distance. These inscriptions are a chart of accounts, an accounting guideline and accounting system. Furthermore, the inscriptions become more powerful as they are combined together. Yet, nine years after the implementation of the reform (2002), the common accounting guideline has still not been completed. This is because there are still accounting issues where solutions have to be negotiated mostly because of the coexistence of two accounting frameworks at different organizational levels (Ministry of Health and Care Services, telephone interview, October 2010). Furthermore, the study showed that the use of multiple interrelated inscriptions could be assimilated to black boxing (Bonner et al., 2005). This is because inscriptions as black boxes condition organizational members to produce financial information in a pre-determined manner according to the central agency information needs and goals. As a consequence, the use of multiple and combined inscriptions limit local actors' possibilities to choose alternative accounting solutions. These solutions could have been more suitable for local decision-making purposes. In the empirical study, the chief accountant of Helse Bergen pointed out that the detailed chart of account has a structure that classify activities more for central information needs than local ones.

In tradition with the Latourian research, the study developed understanding about the role of inscriptions. Like Latour's hotel manager (1991), the accounting guideline, which is the central inscription, keeps on updating and transforming to cover as much as possible of the local norms. As such, it will help to prevent "undesired" behaviour from micro-level organizational members by forcing detailed programs of actions on them (Latour, 1991; Hanseth et al., 1997).

Secondly, according to previous ANT empirical accounting studies, nonhuman elements have the capacity to transform the behaviour and identities of organizational members (Skærbæk, 2009; Skærbæk et al., 2007; Lowe, 2001 and 2000). However, in this study, nonhuman elements, seen as actants, both transform organizational actors and are transformed by these actors. In the empirical study, the chief accountant of Helse Bergen emphasized that it is the existing legislation, which is the Norwegian Act and its related standards, that is normative for the local norms. As such, regional and local actors learn to translate the national accounting norms that are the existing legislation. During the translation process, organizational actors become transformed as they develop, within the public sector an organizational knowledge based on private sector legislation. However, the legislation (the actant) also gets transformed as it is enacted in a different setting leading to new outcomes, which are the local health care accounting norms. This finding confirms Olson and Mellemvik (1996), where the authors point out the fact that two different types of norms can coexist

(external and internal) since local health care accounting norms (internal) develop within health care, but within the external norms boundaries (the Norwegian Accounting Act and its standards).

The mutual transformation of human and nonhuman elements can also be illustrated with the black box concept. ANT studies within the public sector have drawn attention to organizational change as an outcome of black boxing processes mostly controlled by central agencies (Skærbæk et al. 2009; Bonner et al., 2005; Skærbæk et al., 2004; Lowe, 2001; 2000; Chua, 1995; Lawrence et al, 1994; Preston et al., 1992). However, this study provides new insight. The empirical findings show that primary, organizational change and the constitution of new knowledge are controlled by regional and local actors. Secondly, this study reveals the instability of the black boxing process as black boxes (national and local norms) are continuously reopened intact with the increasing organizational knowledge.

Further research could focus on organizational members, who were not involved in the translation of national health care norms: in particular HEs with a clinical background who, I assume, use financial information for decision-making purposes. As such, it could be interesting to find out how these leaders understand and use financial information; that is, how they translate it.



## Appendix 1:

### Overview of interviewees

Interviews	Organizational Entity	Title	Date	Duration
1	Health Region West (RHE)	HRW's Finance director	September 2008	40mn
2	Helse Bergen (HE)	Finance director	November 2008	52mn
3	Helse Fonna (HE)	Finance director	November 2008	46mn
4	Health Region West (RHE)	HRW's Chief accountant	September 2008	40mn
5	Helse Bergen (HE)	Chief accountant	November 2008	78mn
6	Helse Fonna (HE)	Chief accountant	November 2008	60mn
7	Helse Fonna (HE)	Accountant	November 2008	30mn
8	Helse Bergen (HE)	Controller	November 2008	60mn
9	Helse Fonna (HE)	Controller	November 2008	90mn
10	Helse Bergen (HE)	Clinic director	November 2008	30mn
11	Helse Fonna (HE)	Clinic director	November 2008	30mn
12	Ernst and Young (auditing company) Bergen	Auditor	Desember 2008	65mn

## Appendix 2:

### Interview guide

The interviews were structured around four themes.

1. The process to build new local accounting norms
2. The role played by accounting inscriptions (documents and systems) in the process
3. Which actors were involved in the process and their interactions with other actors (within or outside the organizational entity)
4. Learning process.

These themes were discussed for two accounting issues:

- The calculation of depreciation costs
- The calculation of provisions for doctors' statutory leaves

Under each theme, there were follow-up questions to help the respondents in telling their story such as the following.

#### **Theme 1:**

- ✓ How do you calculate depreciation costs/provisions for doctors' statutory leaves?
- ✓ Have there been any changes in the way depreciation costs/provisions for doctors' statutory leaves are calculated?

#### **Theme 2:**

- ✓ Which document or systems do you use when you calculate depreciation costs/provisions for doctors' statutory leaves?
- ✓ Has the role played by these documents or systems been changed in the course of the process?

#### **Theme 3:**

- ✓ Who are the persons (and their organizational position) you think play a important role regarding the calculation of depreciation costs/provisions for doctors' statutory leaves
- ✓ Has there been a change in the course of the process?

#### **Theme 4:**

- ✓ How can you describe the learning process regarding the calculation of depreciation costs/provisions for doctors' statutory leaves

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