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PEETER PEDA

The relationship between governance and performance in water services provision in Estonian municipalities

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2. **Haldma, T., Grossi, G., Peda, P., Liik, M.** (2009). Implementation of the Principles of Management by Objectives in Performance Management in Estonian Municipalities, *Finance and Accounting: Theory and Practice, Development and Trends,* pp. 146–159, Riga: University of Latvia
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3. **Haldma, T., Grossi, G., Peda, P., Liik, M.** (2008). Drivers of Performance Management in Estonian Municipalities: Evidence from Public Transport Provision Area, *Accounting, Auditing and Management in Public Sector Reforms: 5th International Conference on Accounting, Auditing and Management in Public Sector Reforms,* 3–5 September 2008, Amsterdam, The Netherlands.
4. **Haldma, T., Peda, P., Liik, M.** (2007). Drivers of Management Accounting in Estonian Local Governments. *The 30th Annual Congress of the European Accounting Association*, 25–28 April 2007, Lisbon, Portugal.

INTRODUCTION

Motivation for the research

Public sector reform initiatives have resulted in a variety of governance arrangements for public services delivery. Besides the traditional direct production of public services by government departments, the externalization of public services delivery has created a range of corporate forms and managerial solutions. The governance forms such as government-owned companies, public-private partnerships, contracting-out or private companies are often used by public authorities to react to external pressures and challenges related to public services provision (Pollitt et al. 2001, Doherty and Horne 2002, Torres and Pina 2002, Dexia Crediop 2004, Reichard 2007, Grossi 2007).With this shift in public governance, the public authorities have become only one among many actors making and delivering public policy (Kennett 2010). Boundaries between public and private spheres have become less clear and the government's command over policy has been changed (Kjaer 2004, Newman 2005). These changes in public governance associate closely with discussions about public services performance (Hartley and Skelcher, 2008, Skelcher 2008, Osborne 2010) and give rise to questions on the relationship between governance and performance, since the public sector reforms in Western democracies have been initiated in the name of performance improvement (Van Dooren et al. 2010). Therefore, the emerging governance forms are expected to influence the performance of public services provision.

Internationally, the performance agenda emerged in public sector theory and practice in the 1990s (Hood 1991, Pollitt and Summa 1997, Talbot 1999), although its roots extend further back in time (Van Dooren et al. 2010). As Radin (2000) notes, 'if there is a single theme that characterizes the public sector in the 1990s, it is the demand for performance.' Bouckaert and Halligan (2008) observe that the penetration of performance measurement in the public sector continued in the 2000s with no sign of abating. The practice of measuring performance in the public sector has become more intensive and extensive with almost no public service managing to escape (ibid.). Moreover, there are several factors that suggest a continuing focus on public services performance and attempts to improve this. Firstly, in light of the global fiscal crisis, continuing pressures on public budgets are forcing governments to improve the efficiency of the use of their scarce resources and cut back on the public services provided (Levine 1978, Pandey 2010). Secondly, the expectations and demands of citizens in regard to service quality are not decreasing but rather increasing, and this is raising the standards by which public services are judged by the public and the media (Hartley and Skelcher 2008). Consequently, the need to deliver and demonstrate value for money in public services will continue to be reinforced (Van Dooren et al. 2010). In light of this, the present thesis, in its focus on the relationship between governance and performance, contributes to a

field of research that is topical and expected to be important for maintaining and enhancing public services in the years ahead.

The literature on this topic contains a large number of empirical studies that explore the relationship between corporate governance and company performance with considerable effort devoted to this field in the USA since Enron collapsed in 2001 (Bozec et al. 2010). However, there are relatively fewer academic articles that investigate the relationships between corporate governance and performance in the context of public services (Skelcher 2008). To illustrate this, a search in the EBSCO database throws up 6 924 items in response to the keywords 'corporate governance' and 'performance' (January 2012). The number of items remains notably smaller (i.e. 292) when the same search is supplemented with the keyword 'public services'[1]. In an article that attempts to identify new research frontiers in corporate governance, Ahrens, Filatotchev and Thomsen (2009) reveal that there is very little knowledge on how corporate governance features (e.g. specific ownership, board or incentive structures) or conditions (e.g. firm size, industry type, age) actually lead to better economic performance. In the context of public services, Skelcher (2008) also shows that there little systematic research has been conducted on the relationship between governance and performance – the debate lacks 'an integrated corpus of empirically based knowledge.' In the same vein, a meta-analysis of the work in this field by Hill and Lynn (2005) concludes that the majority of the results are about management-performance relationships, while very little research explores the influence of governance on performance in public services. Moreover, the studies exploring the relationships between governance and performance largely test the links between easily measurable 'hard' governance attributes (e.g. the size of the board) and financial results, while they neglect the issue of the relationships between the actors related to decision-making processes (Heracleous 2001, Edwards and Clough 2005). Consequently, these approaches do not facilitate the development of practical understandings on creation of performance in public services. The present thesis seeks to fill this gap by applying a more holistic research approach and mapping the patterns of the influence of governance on public services performance.

A literature review indicates that the existing research that presents evidence about governance practices and their influence on performance in the Estonian public sector stem largely from three research directions. First, there are a number of governance studies conducted in the domain of public administration that focus on state level governance problems such as the capacity and functioning of the civil service (Randma 2001, Drechsler 2004, Saarniit 2005/2006, Lagerspetz and Rikmann 2009, Palidauskaite et al. 2010), the development of

[1] The number of found items depends on the combination of used keywords and the search results vary if the general keyword 'public services' is replaced with keywords referring to particular public services (e.g. with 'health care' – 100 items, with 'utility company' – 41 items).

state administrative structures (Sarapuu 2011) and the agencification trends in Estonia (Randma-Liiv et al. 2011). In the context of the dissemination of the ideas of New Public Management (NPM) (Hood 1991) in local governments, Tonnisson and Wilson (2007) analyze the changing nature of local government management in Estonia, while Murumägi et al. (2010) and Mäeltsemees (2010) specifically explore the legal and economic problems of using public-private partnerships (PPP) in Estonian municipalities. The second direction of governance research conducted in Estonia is related to studies in economics about factors influencing corporate ownership changes during and since the years of mass privatisation in the 1990s (Jones and Mygind 1999, Kalmi 2003, Jones et al. 2005, Hannula 2006, Rozeik 2008). In the same vein, drawing on a panel of data for a large random sample of Estonian companies, Jones and Mygind (2002) and Jones et al. (2003) explore the privatisation effects on the productive efficiency of companies; however, without any special consideration of the performance of public services companies. Finally, the third group of governance related studies in the literature reviewed from Estonia focuses on public policy and regulatory governance issues in specific public services sectors. These studies consider natural monopoly and competition issues in terms of economic theories, and analyze regulation practices in sectors such as public transport, energy, telecommunications, broadcasting and postal services in Estonia (Sepp and Tomson 2010, Sepp and Eerma 2011, Jõesaar 2011). In the context of public transport provision, a study by Haldma et al. (2008) also investigates the use of elements of performance management and governance tools by local governments when delivering transport services through publicly and privately owned companies. However, none of the abovementioned studies explore how local governments set up and use both the corporate and regulatory governance mechanisms in public services provision, and how the different governance patterns determine financial and non-financial performance in public services. This dissertation aims to fill this gap through in-depth research conducted in the Estonian water sector.

The specific focus of the present thesis is on the relationship between governance and performance in the water sector because considering the variety of stakeholders in relation to water services this sector provides good insights into the complexity of public services governance. Water and sanitation services are crucially important for the health and well-being of the population as well as for economic development and the state of the environment. From the economic point of view, water services exhibit the characteristics of a natural monopoly (Parker 1999, Van Dijk 2008, Berg and Marques 2011). In practice, with no consideration of the manifold aspects of water services and no proper governance system in place, any attempt (e.g. privatisation) to improve performance can easily result in no benefits or complete failure as witnessed in many cases around the globe (Hall et al. 2004, Casarin et al. 2007, Vinnari and Hukka 2007). Berg and Marques (2011) point out that the extent of the existing literature on water utilities 'does not fully reflect the importance' of the issue. A

literature review among international articles indicates that the evidence about the relationship between governance and performance in the water sector comes largely from quantitative studies testing for the influence of market structure (e.g. size, density), ownership structure, regulations and performance benchmarking on the efficiency of water services delivery (Abbott and Cohen 2009, Walter et al. 2009, Berg and Marques 2011). However, as discussed by Shirley (2008), there are considerably less comparative qualitative studies that capture the complexity of water services governance in providing knowledge about how differences in governance (e.g. private sector involvement) determine the performance of water services provision. In the local context, only a few academic studies have been published that shed light on corporate governance and performance issues in the Estonian water services sector. The case studies by Balslev Nielsen and Hoffmann (2003), Hall (2003) and Vinnari and Hukka (2007) discuss the privatisation of the largest water company in Estonia and analyze the outcomes of that process. A quantitative study by Peda et al. (2011), drawing on panel data of a sample of Estonian companies, explores ownership and size effects on the performance of the water companies. And yet studies can be found that provide an overview of the legal and institutional frameworks (Hukka 2004) and the principles of water pricing (Banhard 2001) in the Estonian water services sector. This dissertation seeks to fill the gap in the literature and provide a thorough insight into the governance practices and performance problems in the Estonian water services sector.

Water services have been traditionally produced and delivered by the public sector in most countries of the world in order to secure quality services at affordable tariffs, and ensure the necessary investments (Hall and Lobina 2007, Vinnari 2008). Still, local governments worldwide have made efforts to involve the private sector one way or another in water services production. In Estonia, where water services in 90% of its towns and cities (i.e. regional centres) are produced by fully publicly owned water companies, there also exist other production modes in the smaller towns and rural municipalities. These include specialised water companies with mixed (public and private) ownership, production delegated to private companies or direct production by local government agencies (departments). Despite its relatively small total population (1.34 million people), the water sector is fragmented in Estonia, including over 200 companies of various sizes operating under different governance regimes established by local governments (Peda et al. 2011). The variety in ownership structure, corporate size and regulations applied by local governments, constitutes a unique research field for conducting a comparative performance study in that sector.

Although the capital city of Tallinn provides a unique research perspective, it sold the majority of the shares in its water services company to international partners and later listed the shares on the stock exchange (NASDAQ OMX 2012). Moreover, eight years after the privatisation, public criticism emerged of the water company's high profitability, increased water prices and slowness in

constructing infrastructure. Consequently, provoked by the high profitability of the Tallinn water monopoly, the parliament of Estonia adopted a special law in 2010 aimed at forming a central independent water regulator for price control at the Estonian Competition Authority (Monopolidele hinnapiirangute…2010). In light of recent regulatory initiatives in the Estonian water sector, it is important that the true sources of the problems are properly identified. To do that, the features of governance along with their consequences need to be mapped and related shortcomings highlighted. Therefore, the practical implications of the present thesis could also provide policymakers and regulators with useful information on the complex relationships between governance and performance in the Estonian water sector. This information should be considered when developing governance mechanisms and policies for the multifaceted performance improvement in water services.

The aim and research tasks

The aim of the present thesis is to provide a more in-depth understanding of how different patterns of corporate governance influence the financial and non-financial performance of water services provision in Estonian municipalities. The dissertation contributes to the scientific debate on the changing roles of public authorities in public services provision, and the set up and use of governance mechanisms for influencing the performance of the public services. In terms of the regulatory governance of water services, particular interest is given to interactions between water companies and local governments and how they achieve their divergent goals. This knowledge becomes useful for policymakers, regulators and other interest groups in developing strategies and discovering ways to improve the performance of water and other public utility services provision.

To achieve this aim, the following research tasks were set:

1. To explore the relationships between the main concepts (i.e. corporate governance, accountability and performance) applied in the study and to reveal the performance expectations from the theoretical perspectives of corporate governance;
2. To explore the theoretical background to indicate how the setup and use of corporate governance mechanisms and performance management tools can influence decision-making and consequently corporate performance;
3. To explore the literature on the externalization of public services and the specific features of water services provision in order to understand the complexity of governance and performance relationships in water services;
4. To identify the peculiarities of the Estonian water sector, and to draw together the main features of EU and national regulations that constitute a framework for water services provision in Estonian municipalities;

5. To undertake a quantitative study of the influence of ownership on the efficiency of Estonian water companies in order to assess the superiority of particular ownership forms over others;
6. To conduct a comparative case study on how the applied corporate and regulatory governance mechanisms under different ownership structures in water companies influence their financial and non-financial performance;
7. Finally, to synthesize the research results to identify implications for improving the governance system to enhance performance in the Estonian water services sector and make suggestions for further research.

The originality of the research

In the literature, academic studies that examine the relationships between corporate governance and performance use largely statistical research methods regressing selected numerical or quantitative variables for testing hypotheses. The exclusive use of such research approaches creating dependent and independent variables and using archival data on selected governance and performance features fail to deliver insights into the processes involved in governance that lead to particular behaviours and performance outcomes (Heracleous 2001, Edwards and Clough 2005, Skelcher 2008, Tosi 2008, Ahrens et al. 2009). For instance, one can assume that managers of publicly owned companies are not in pursuit of high corporate profits, but how this works remains unclear without field studies of corporate governance practice. Therefore, the current dissertation applies a novel mixed quantitative and qualitative research method to provide a deeper understanding of how corporate governance mechanisms influence performance. The quantitative part includes a regression analysis, and tests the probability of different ownership structures leading to higher efficiency; the qualitative part comprises a comparative case study and examines the governance patterns practiced under particular ownership structures and their impact on performance.

The need to prioritize case studies that can provide a more in-depth understanding of performance in water services has been articulated by a number of scholars (see Shirley 2008, Araral 2008). In the literature, there are many studies that compare the performance of public and private water companies (see Renzetti and Dupont 2004, Abbott and Cohen 2009, Walter et al. 2009, Berg and Marques 2011) using econometric models; however, as argued by Araral (2008) 'very few serious studies examine prices, affordability and profitability' in the context of water services. This dissertation, as opposed to existing ownership-performance studies in the water sector, relies on a comparative case study analysis of the influence of governance on both financial (e.g. profitability) and non-financial performance (e.g. service affordability, water quality), and explores the achievement of trade-offs between them. Connecting different streams of governance and performance literature, such as *corporate governance, regulatory governance, public services management, performance*

measurement and management, the dissertation proposes a novel framework (see Figure 18, p. 101) that allows us to understand and analyze the influence of governance on performance in public utility services holistically.

The argument for observing the influence of governance on performance, particularly in the water services sector, is associated with the specific situation in Estonia, where water services are produced by a relatively large number of water companies operating under various ownership structures (public, private, mixed) and local government economic regulations. Yet the main corporate governance and accounting regulations are common for both private and publicly owned companies in Estonia, which offers a unique opportunity to compare and analyze the carry-over of corporate governance and management initiatives from private water companies to publicly owned ones that are often seen to be lagging behind private business practices (Wettenhall 2001).

Last but not least, as revealed by Walter et al. (2009) in their comprehensive literature review article, there is a scarcity of scientific benchmarking studies of water utility performance conducted in Northern and Eastern Europe. According to the knowledge of the author of this dissertation, none of the studies covers the governance mechanisms and performance record of privately and publicly owned water services providers in the Baltic region and Estonia in particular. Thus, one novelty of the dissertation is related to its attempt to shed light on financial and non-financial performance considerations in Estonian water companies. Although the empirical studies in the dissertation are conducted in a single country, they offer various insights and provide a broader understanding of the relationship between governance and performance in the context of water services.

The structure of the dissertation

The present dissertation consists of three chapters. The first chapter creates the theoretical basis for the research. In the second chapter, the research framework and research methods along with the data collection principles are introduced. The third chapter consists of the empirical analysis followed by a discussion of the study results. The overall structure of the dissertation is presented in Figure 1 showing the links between the chapters and the knowledge resulting from them.

Chapter one begins by providing the concepts of governance, accountability and performance used in the study and explores the theoretical background of governance-performance relationships. Since governance, accountability and performance are broad concepts, their various dimensions will be discussed to clarify the nature of the relationships between them. In the same chapter, the theoretical expectations in terms of performance outcomes are drawn from the main corporate governance theories. Some of the theories (e.g. agency theory, stakeholder theory, stewardship theory) provide insights into the interests of those involved in governance, while others into the role of ownership structure (property rights, public choice theory, transaction cost, industrial organization theory) in determining performance.

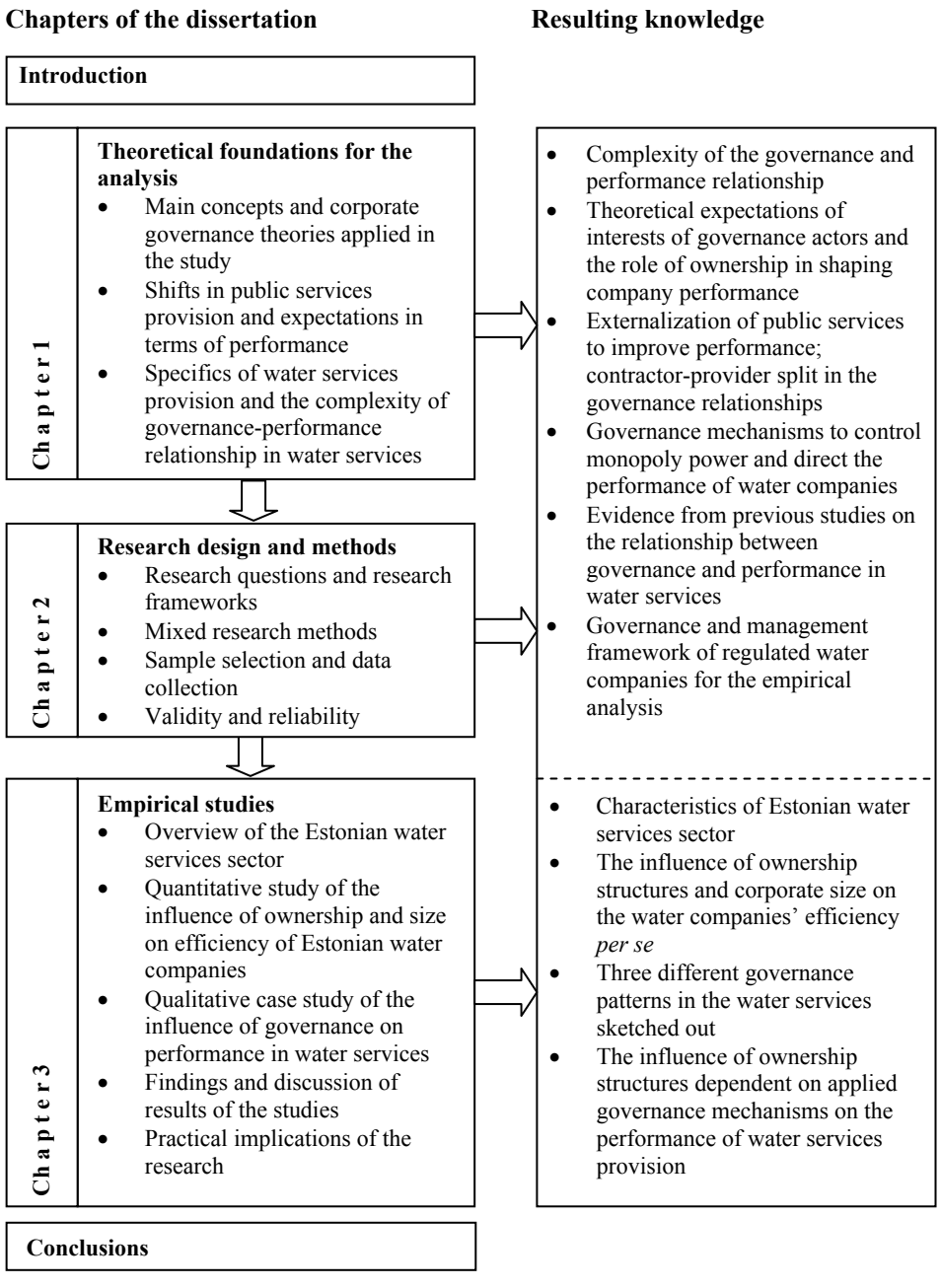

Figure 1. The structure of the dissertation (source: compiled by the author)

Subchapter 1.2 takes the discussion of governance-performance into the context of public services provision by expanding the focus from governance interactions within a single company (micro level) to interactions between the company and local government (meso level). In light of the externalization of public services, differences in the roles of contractor (local government) and provider (company) will be discussed along with the challenges and promises of governance mechanisms in avoiding performance eroding conflict. The subchapter ends with a review of empirical evidence from previous studies about the relationships between governance and performance in public services provision.

Finally, subchapter 1.3 in the theoretical section of this dissertation explores the specific characteristics of water services provision (e.g. monopoly), addresses the implications of water services externalization and discusses the governance arrangements applicable by (local) governments in order to direct the performance of the water companies. The subchapter ends with a review of empirical evidence from previous studies about the relationships between governance and performance in water services provision.

On the basis of the concepts and premises established in the first chapter, the second chapter presents the research questions and the research framework for studying the relationships between governance and performance. Subchapter 2.2 introduces the mixed quantitative and qualitative research methods used in this dissertation. A more thorough description is provided of the Data Envelopment Analysis and comparative case study analysis. Finally, the principles for the data collection and the motivation for selecting the particular case companies are introduced. The issues of validity and reliability are also discussed as important for evaluating the legitimacy of the research.

In the third chapter, the tentative framework will be used to conduct empirical studies to explore the influence of governance on water services performance in three Estonian municipalities. At the beginning of chapter three, an overview of the peculiarities of the Estonian water sector is provided, and the main features of the legislation regulating Estonian water sector performance are discussed. In subchapter 3.2, the results of the statistical analysis undertaken to test the influence of ownership and corporate size on the efficiency of Estonian water companies *per se* are revealed and discussed. Subchapter 3.3 presents the three case descriptions of the case study along with case summaries. Thereafter, the discussion of results from the qualitative study follows in subchapter 3.4. Finally, propositions contributing to the theory are presented along with policy implications and recommendations for improving water services governance in Estonia. The final section of the dissertation discusses avenues open for future research into the relationships between governance and performance in water services.

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Naturally, I am solely responsible for all the mistakes and errors that may be found in this dissertation.

1. THEORETICAL FOUNDATIONS FOR THE ANALYSIS OF THE RELATIONSHIP BETWEEN GOVERNANCE AND PERFORMANCE

1.1. Main concepts and theories applied in the study

1.1.1. The concepts of corporate governance, accountability and performance

Corporate governance has been a prominent issue over the last thirty years, although the theories underlying the development of corporate governance and the areas it embraces date from much earlier and are drawn from a variety of disciplines including finance, economics, accounting, law, management and organizational behaviour (Monks and Minow 2001, Mallin 2004, Clarke 2007). The scientific debate on corporate governance issues has produced a number of different definitions (Cadbury 1992, Tricker 1993, Dimsdale and Prevezer 1994, Charkham 1994, Lannoo 1995, Monks and Minov 1995, Shleifer and Vishny 1997, OECD 2004). Probably the shortest and most direct definition of corporate governance stems from the Cadbury report (1992), which states: 'Corporate governance is the system by which companies are directed and controlled.' An elaborated prominent definition is provided by the OECD in its *Principles of Corporate Governance* published in 1999 and revised in 2004:

> 'Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined.'

A common feature of the various corporate governance definitions is that corporate governance is a system and it consists of a set of mechanisms, such as boards, nexus of contracts, company law, monitoring by large owners, and the threat of hostile takeovers, creditor monitoring, managerial incentives and product market competition (Thomsen 2008, Zumbansen 2010). As the OECD's (2004) definition indicates, the emphasis on relationships is central to extended definitions of corporate governance: it is directed towards the managers of the company and one or many stakeholders and their power are involved (Collin 2006). According to this definition, corporate governance encompasses two important approaches: the narrower shareholder focus and the broader stakeholder view (Mallin 2004). The narrower perspective of corporate governance focuses primarily on the relationship between shareholders and the management and aims to find out whether the shareholders exert sufficient control over the managers to ensure that their objectives and not the managers' are pursued in the company. Internationally, different corporate governance systems are estab-

lished and applied (e.g. Anglo-American model, dualistic German model described in subchapter 1.1.3.) to determine the formal delegation of power and control structures for companies (Clarke 2007). The broader view of corporate governance does not only consider shareholders, but also other stakeholders (e.g. customers, the community) that have an interest in the company's activities and performance (Filatotchev and Wright 2005). Therefore, as Gedajlovic (1993) states, 'the executive and non-executive directors must balance the pluralist claims of those with a vested interest in the corporation in order to secure their required contribution.'

The term corporate governance, with its genesis in the private sector and traditionally focused on the shareholder-company relationship, is increasingly used in the context of the public sector (Edwards and Clough 2005, Bovaird 2005). In that context, corporate governance has most often been concerned with the relationships between policymakers and the managers of public sector organizations given the task of fulfilling policies – delivering public services (Osborne 2010). Edwards and Clough (2005) note that due to significant differences in the organization and governance of public sector entities (e.g. departments, agencies, corporations) and private companies, the term 'public sector governance' is often used instead of 'corporate governance.' In the same vein, the term 'public governance' is used which according to Skelcher (2008) refers to the 'different corporate arrangements applied to the organizations through which public policy is shaped, made and executed.' Similarly, Lynn, Heinrich and Hill (2001) define public governance as the 'regimes of laws, administrative rules, judicial rulings, and practices that constrain, prescribe, and enable government activity,' where activity is defined as the production and delivery of publicly supported goods and services (Coates 2004). According to Bovaird and Löffler (2003), public governance means 'the ways in which stakeholders interact with each other in order to influence the outcomes of public policies.' This definition of public governance encompasses two complementary aspects of the quality of public governance (Bovaird and Löffler 2003): (1) the achievement of quality of life outcomes that matter to the stakeholders and, (2) the achievement of processes of interaction between these stakeholders, which are in line with agreed criteria or norms (Bovaird 2005).

Governance is also often employed to describe a paradigmatic shift away from 'governing' or 'government' (Rhodes 1996, Adshead and Quinn 1998, Mayntz 2002, Bovaird and Löffler 2003). Rhodes (1996) explained governance as a change in the meaning of government, referring to a new process of governing or a changed condition of ordered rule. The change stands for the evolution of a different interface among actors, whose traditional basis of operation used to be government, civil society organizations or markets (Halachmi 2003). With this shift, government has become one player among many in a policy arena (Kennett 2010) that has become more crowded and contested with more actors involved. The boundaries between public and

private spheres have become less clear and the government's command over policy has been changed (Kjaer 2004, Newman 2005).

As public governance concerns have become more widespread and important, there are various specifications of the term 'governance' in the literature, illustrating the fragmentation of the governance concept in the public sector context. For example, Osborne (2010) distinguishes five strands in public governance – *socio-political governance, public policy governance, administrative governance, contract governance* and *network governance* – that all provide insights into public policy implementation and public services delivery. *Sectoral governance* refers to the governance of 'coherent areas of the economy' such as energy, water or environmental policy, influenced by national and international legislation (Brunnengraeber et al. 2006). *Good governance* is a concept mainly used in the context of development policy and refers to specific conditions to which international financial and development organizations, such as the World Bank and the International Monetary Fund (IMF), tie their co-operation and funding (Knack 2003, Bovaird 2005, Brunnengraeber et al. 2006). The specifications *local, regional* and *national governance* all refer to particular political and administrative levels in public governance. All the given specifications shed some light on what is encompassed within the relatively vague concept of 'governance.' What is important in this dissertation is the recognition that corporate governance either in the private or public sector is a relational concept (Bovaird and Löffler 2003, OECD 2004, Bovaird 2005) and that governance is necessary in order to convey the interests of the stakeholders (e.g. owners, policymakers, financiers, customers) in an organization into the performance of the organization.

Accountability

The roots of the contemporary accountability concept lie in the decades after the 1066 Norman conquest of England, when William I required all the property holders to render an account of what they possessed (Dubnick 2002). Being initially related to bookkeeping for tax purposes, the accountability concept has now moved far beyond its origins and become a trademark of good governance, both in the public and in the private sector (Bovens 2006). In the corporate governance literature, the accountability concept is primarily associated with power delegation from shareholders (principals) to managers (agents) and the need to have a mechanism in place for holding managers accountable for their decisions and if necessary to impose sanctions, ultimately by removing them from power (Lindberg 2009). This idea is compressed by Brooks (1995), who provides a universally applicable definition for accountability as follows:

> 'Accountability is a mechanism to ensure that individuals can be called to account for their actions, and that sanctions are incurred if the account is unsatisfactory.'

Similarly Bovens (2006) provides a rather concise definition of accountability:

> 'A social relationship in which an actor feels an obligation to explain and to justify his or her conduct to some significant other.'

Bovens' (2006) definition implies the process of being called 'to account' (Mulgan 2000), which takes place between the accountor (agent) and the accountee (principal) (Stem 2000, Pollitt 2003). Analytically, this process can be divided into three parts (Bovens 2006):

1. The accountor feels a formal or informal *obligation* to inform the accountee about his conduct by providing data about the performance of tasks, about outcomes or about procedures;
2. The provided information can lead to the interrogation of the accountor to *question* the adequacy of the information or the legitimacy of the conduct;
3. The accountee passes *judgement* on the conduct of the actor. In the case of a negative judgement, the accountee can impose some sort of sanction. The possibility of sanctions is viewed as a constitutive element of accountability, which marks the difference between a non-committal provision of information and being held accountable (Mulgan 2003, Strom 2003, Bovens 2006, Schillemans 2010).

Hence, the gist of accountability can be summarized in two major questions as follows: *what* is the actor accountable *for* and *to whom*? (Bovens 2006, Collier 2008a).

Accountability in the public sector is described as a heterogeneous, complex, chameleon-like and elusive concept (Sinclair 1995, Barberis 1998, Mulgan 2000, Greiling and Spraul 2010). Bovens (2006) notes that the accountability concept has become a rhetorical device serving 'as a synonym for many loosely defined political desiderata, such as transparency, equity, democracy, efficiency and integrity'. Nevertheless, Mulgan (2003) argues that accountability 'has come to stand as a general term for a mechanism that makes powerful institutions responsive to their particular publics.' In the public governance context, there are five distinct purposes of accountability (Bovens 2006): (1) democratic control, (2) integrity of public governance, (3) performance improvement, (4) maintaining and enhancing legitimacy and (5) purification by providing public *catharsis*. These functions indicate that accountability is not only about control, but also about prevention, building trust, individual and organizational learning in pursuit of continuous improvement in governance and public management (Aucoin and Heintzman 2000, Roberts 2001, Bovens 2006, Budding 2008).

The question of, *what* is the actor accountable *for* and *to whom* becomes useful when classifying types of accountability. There is a number of ways to classify accountability relationships: based on the accountee, based on the accountor, based on conduct, based on obligation (Bovens 2006). The following

types of accountability are distinguished in the public governance literature based on the nature of the accountee – *to whom* (Dubnick and Romzek 1987, Glynn and Murphy 1996, Bovens 2006):

1. *Bureaucratic* and *managerial accountability* – to superiors. In bureaucratic accountability, subordinates have to follow orders and focus on the priorities of their superiors at the top of the bureaucratic hierarchy. Managerial accountability represents a shift from these orders to management and results, which is the gist of managerial accountability.
2. *Legal accountability* – to civil or administrative courts based on specific responsibilities from legal standards.
3. *Professional accountability* – to professional peers implying relationships with professional associations that lay down codes with standards for acceptable practice.
4. *Political accountability* – to elected representatives and political parties. In this context, accountability can be described as a chain of relationships (Strom 2000), where citizens delegate power to elected politicians, who (in the case of a parliamentary democracy) delegate the authority to the government, the government delegates it further to administrative units. The account-giving functions in an operate direction as a chain from executive public servants to voters. In the case of political appointments, political parties and party leaders can function as important informal political forums (Bovens 2006).
5. *Social accountability* – to various interest groups (stakeholders), such as clients, citizens, charities etc. Such a direct relationship between public agencies and civil society is suggested in many democracies as a response to diminished trust in public sector institutions (McCandless 2001).

However, accountability is not limited to a single two-party principal-agent relationship, and vice versa, governance actors can be accountable to a number of parties inside and outside their organizations, and this reveals a connection between the accountability concept and stakeholder thinking (Niskala and Näsi 1995). Collier (2008b) notes that the stakeholder-agency approach (Hill and Jones 1992)[2] has the potential for enhancement in order to explore the accountability of a governing body to multiple stakeholders, which can become useful in shedding light on the stakeholders' relative power and importance in pursuit of performance.

In light of the spread of NPM ideas, a recent major shift witnessed in the public sector has been a move from process-oriented accountability to results-oriented accountability (Schwartz 2002). The substance of results-oriented

[2] Hill and Jones (1992) consider an organization as a nexus of contracts that encompasses contractual relations between all stakeholders whilst recognising power differentials. The stakeholder-agency approach views managers as agents of other stakeholders 'policed by governance structures' (Collier 2008b).

accountability, also referred to as performance-based accountability, is performance – it aims to demonstrate and give account of results against established targets (OECD 1997). Thomas (1998) and Llewellyn (1998) emphasize that the prior assignment of responsibilities (i.e. agreeing upon goals) is a prerequisite for calling somebody to account. Greiling and Spraul (2010) point out that the provision of information within the accountability relationship can be supply or demand-driven. In the case of demand-driven provision, the accountability requirements are predetermined by the accountee in line with classical vertical bureaucratic planning and control mechanisms. However, Van Dooren et al. (2010) argue that accountability initiatives are not usually entirely predetermined, neither are they completely voluntary (i.e. 'accountability is negotiated and the measurement object is negotiated'). Moreover, Van Dooren et al. (2010) also claim that trust-based control systems can become a good substitute to performance-based accountability. Such control systems are based on traditions, on professions, on standard-operating procedures, and they are seen as being relatively cost-effective, embodying considerable ownership within the responsibilities (ibid.).

In the literature, accountability discussions often importantly refer to the term 'transparency'. Koppell (2005) points out that transparency is one dimension of accountability. Bovens (2006) argues that 'transparency is instrumental to accountability but not constitutive of accountability.' This view is in line with Aucoin and Heintzmann (2000), who see transparency as a requirement for accountability. Brito and Perrault (2009) provide a comprehensive definition of transparency, viewing it as a process that: (1) requires us to disclose (2) substantively and truthfully (3) our performance (4) to those who are entitled to know. They emphasize that transparency can be a means of eliminating information asymmetry, and therefore, helps achieve accountability (ibid.). The definition of transparency offered by Brito and Perrault (2009) also indicates that 'only if the principal can measure the agent's performance – and not simply monitor their activity – can the agent be held accountable.' Lowenstein (1996) argues that 'good disclosure has been the most efficient and effective mechanism for inducing managers to manage better' because (1) under disclosure the managers as agents will have an incentive not to act against the goals of superiors (principals) and (2) in the case of performance-related pay, managers have a clear incentive to perform well. Consequently, the agent is interested in improving results, which are disclosed and evaluated.

In the public sector, the OECD (2002) notes that transparency is a part of good governance 'meaning that reliable, relevant and timely information about the activities of government is available to the public.' The OECD (2010a) suggests that having an internet website and continually improving its content is a means of ensuring public transparency. For publicly owned companies, internet websites, like annual reports, are suggested as appropriate communication channels to maintain an open dialogue with the stakeholder about finances, environmental issues and social responsibility (ibid.). Van Dooren et al. (2010)

stress that the publication of information increases pressure on organizations. Therefore, 'external accountability requires high validity and reliability because of high stakes of bad or good results for the organization' (ibid.).

To sum up, it can be argued that the concept of accountability complements the concept of corporate governance (Solomon 2010). Accountability is viewed as a social mechanism for directing and controlling (i.e. influencing) a governance actor in pursuit of the interests of some significant other. It has the potential to serve as a facilitator of the governance relationship between them. Therefore, considering the aim of the present dissertation, the previous discussion leads to a relevant question about what the features of the established accountability systems are and how they influence the behaviour of governance actors and consequently corporate performance.

Performance

In its broadest sense performance refers to an intentional behaviour, which can be individual or organizational (Sonnentag and Frese 2002, Dubnick 2005, Van Dooren et al. 2010). A relevant and frequently cited definition of performance by Campbell et al. (1993) states:

> 'Performance is what the organization hires one to do, and do well.'

This definition of performance indicates that performance stands apart from mere behaviour, but encompasses behaviour (action), which is guided by some purpose (e.g. an organizational goal). Moreover, it also indicates that performance embodies 'judgemental and evaluative processes' and that only actions that can be measured constitute performance (Sonnentag and Frese 2002). In the literature, a number of authors conceptualizing performance distinguish an aspect of action (the quality of action) from an aspect of the outcome (the quality of the achievement) in relation to performance (Campbell 1990, Campbell et al. 1993, Sonnentag and Frese 2002, Dubnick 2005, Van Dooren et al. 2010). By relying on these two different aspects of performance (along dimensions of *low* and *high*), Dubnick (2005) distinguishes between four perspectives of performance as revealed in Table 1.

Table 1. Types of performances

		Focus on quality of performance achievement	
		Low	High
Focus on quality of performance actions	High	P2 Competence	P4 Productivity
	Low	P1 Production	P3 Results

Source: adapted from Dubnick (2005)

According to the typology in Table 1, the first perspective of performance (P1, production) focuses attention on tasks being carried out by the performing agent. This most basic form of performance is associated with the process of production in the broadest and narrowest senses of that term (Dubnick 2005) irrespective of whether the production was successful (Van Dooren et al. 2010). The second form of performance (P2, competence) views performance as the quality of actions, not so much as the quality of achievement, and is associated with the competence and capabilities of the performing individuals or institutions. The third form of performance (P3, results) is about *what is produced,* as opposed to the process of production itself (P1) or the efficiency of the production process (P4). The results are typically presented in quantitative terms. Finally, performance as productivity (P4) implies 'the ratio of output to input for a given production unit under given conditions, (i.e. the production function)' (Dubnick 2005). This approach to performance elevates both the quality of the action as well as the achievement.

The four types of performance revealed in Table 1, cover most of the meanings usually applied to the concept of performance in the literature. In the public sector context, a typical approach to defining performance is to use the production model (see Appendix 1) by Bouckaert and Halligan (2008), which views performance as outputs and outcomes of production activities inside organizations. Van Dooren et al. (2010) emphasize that outputs and efficiency, which can be adequate conceptualizations of performance in the private sector, remain unsatisfactory in the public sector because ultimately outputs are expected to have effects in society. Moreover, the maximization of financial profit is not usually an objective of public sector organizations (Bouckaert and Halligan 2008). However, output considerations remain important in the public sector because public sector organizations have to evaluate their output mix in order to understand whether they are providing the right bundle of public services (Van Dooren et al. 2010).

Alternatively, performance is often defined in the public sector as the realisation of public values, such as equity, robustness, openness and transparency in the public sector context (Van Dooren et al. 2010). Boyne (2010) argues that public sector organizations are likely to be judged as performing well if their stakeholders believe that they are producing not only the right results (e.g. high scores on performance indicators), but that they are doing this in the right way. In the same vein, Kickert (1997) emphasizes that performance in the public sector has to deal more with value patterns, such as legality and legitimacy than business-like efficiency or effectiveness criteria. To be regarded as legitimate, public sector organizations need to meet the expectations of influential stakeholder groups in their environment (Meyer and Rowan 1977, Boyne 2010). However, Collier (2008a) notes that sometimes performance can be viewed as a theatre or drama acted out for the public stage to satisfy politicians, the public and the press by legitimizing public sector organizations.

All in all, Skelcher (2008), conceptualizing performance in public services, distinguishes three major types of performance as shown in Table 2. First, the *organizational performance* of public service entities focuses on efficiency, effectiveness, productivity, service quality and compliance with normative acts. Second, *democratic performance* refers to the extent to which the governance arrangements of an organization enable the exercise of legitimacy, consent and accountability (Mathur and Skelcher 2007).

Table 2. Types of performance in public services

Type	**Definition**
Organizational performance	The substantive outputs and outcomes of a public organization
Democratic performance	The extent to which public organization is able to demonstrate mechanisms for legitimacy, consent and accountability
System performance	The extent to which a system of public organization is integrated

Source: Skelcher (2008)

Finally, *system performance* characterizes the whole functioning of the government system and its ability to coordinate activities and resolve collective action problems across jurisdictions.

However, in the discussion of public sector performance, Bouckaert and Halligan (2008) distinguish three 'levels of depth': micro, meso and macro level. *Micro* level is defined at the level of the organization, while *meso performance* refers to the performance of particular policy areas or networks and the *macro* level deals with the performance of national or regional governments. According to this distinction, micro, meso and macro performance are a nested configuration, where the smaller performance dimension fits within the larger one (ibid.).

To sum up, the concept of performance has a broad scope in the public sector (Van Dooren et al. 2010). Simply put, performance may be what is done and how it is done, the results of what is done or a mere presentational device in the public sector (Collier 2008a). On the basis of Dubnick's (2005) performance typology, this dissertation will address the outcome aspect of performance (the quality of achievement), in other words, the *productivity* and *results* perspective of performance. In terms of the 'levels of depth' in performance (Bouckaert and Halligan 2008), the research focus will at first be on the micro level of *organizational performance*; however, the meso level and legitimacy as part of *democratic performance* (Skelcher 2008) will also be explored.

Relationships between governance, accountability and performance

The discussion has so far sought to conceptualize corporate governance, accountability and performance, and has begun to indicate some theoretical relationships between them. Bringing together the concepts explored above for further analysis, Figure 2 provides a simplified illustration of how corporate governance and accountability can be positioned in the process of influencing corporate performance. In the narrower perspective, corporate governance (the area within the outer rectangle in Figure 2) focuses on the governance relationship between the shareholder and the manager in the company. In this relationship, the interests of the shareholder and the manager may vary and these variations are reflected in decisions, which consequently can influence corporate performance.

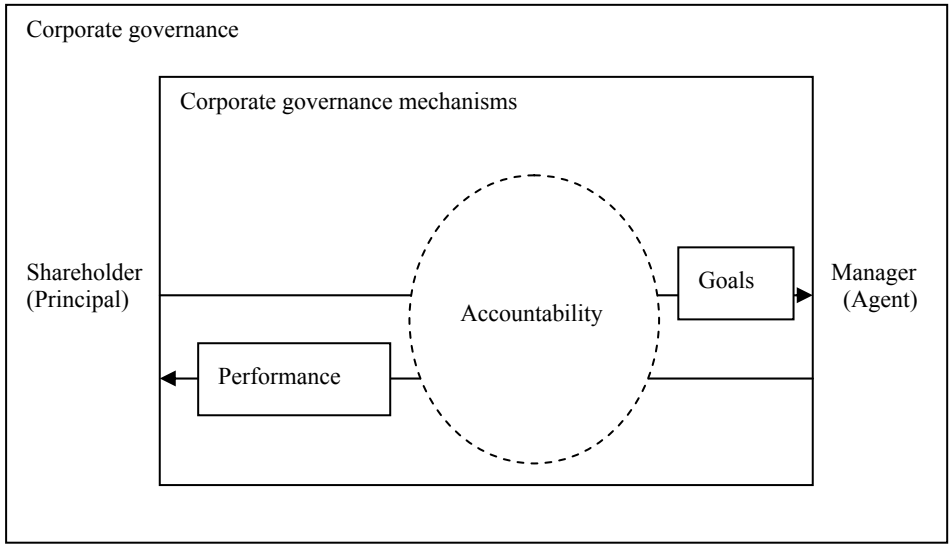

Figure 2. General relationships between the concepts of corporate governance, accountability and performance (source: compiled by the author)

While focusing on the shareholder-manager relationship, corporate governance as a system consists of a set of governance mechanisms (the inner rectangle in Figure 2). The governance mechanisms can be used by the shareholder to control and direct the manager's behaviour (decisions), thus influencing corporate performance. The perspectives of particular corporate governance mechanisms in influencing the achievement of the objectives of shareholders and other stakeholders in a company will be discussed further in subsection 1.1.3. To facilitate control over the manager's behaviour and to ensure that the shareholder's interests, and not the manager's, are pursued in the company, accountability as a social mechanism is put in place. This serves to bridge the share-

holder's goals and the manager's delivery against them (the dotted circle in Figure 2), and holds the manager to account for the decisions and the achievement of the goals. By making the manager responsible to the shareholder, this accountability makes it possible to influence performance. All in all, of importance in this dissertation is the recognition that when corporate performance in general can be influenced through establishing a corporate governance and accountability system, differences in corporate governance and accountability practices can also result in differences in performance. The present dissertation aims to explore how the differences in the design and use of corporate governance mechanisms influence corporate performance.

In public services, Hartley and Skelcher (2008) provide a robust theoretical framework on the interplay between the governance and performance concepts in a particular policy context as illustrated in Figure 3. According to this, governance concerns the arrangements for establishing values, identifying needs, establishing the public purpose and overseeing and monitoring performance through management action. Management is seen as the system for using organizational resources for public purposes and for producing performance outcomes (for external and internal users), some of which can be assessed through performance metrics. Governance composes the framework for value creation, while the management answers how value creation within this framework is executed and developed. The management processes take place in distinct policy contexts, which can be highly professionally defined (ibid.).

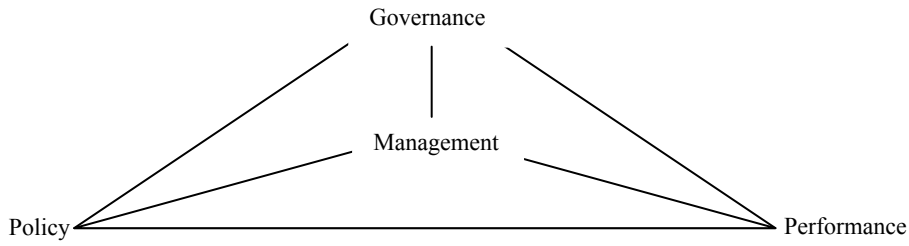

Figure 3. Relationships between the concepts of governance, management, policy and performance in public services (source: Walker and Damanpour 2008)

Also a more detailed governance model by Schedler and Siegel (2005) seeks to provide links between governance, management and performance in the public sector as revealed in Figure 4.

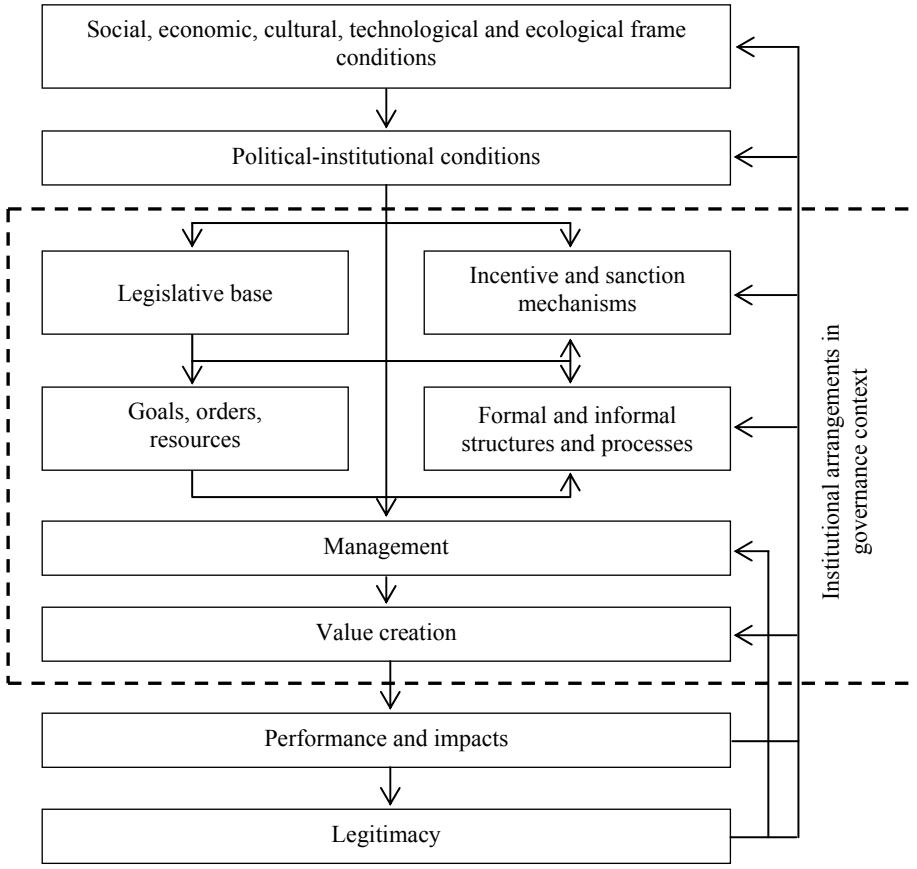

Figure 4. Relationships between the concepts of governance, management and performance in public sector (source: adapted from Schedler and Siegel 2005)

Schedler and Siegel (2005) point out that it is complicated to draw a clear distinguishing line between the governance and management perspectives in the public sector, where governance and public management issues are inextricably linked. Each part of the public governance model in Figure 4, from the 'frame conditions' at the top to 'performance and impacts' at the bottom, is described as a complex decision-making area that is connected to the other decision-making areas. The parts of the model are assumed to have a direct or indirect relationship to each other. The 'social and political conditions' determine the objects and the subjects in the problem solving process. The governance part (the area inside the dotted rectangle in Figure 4) is viewed as a system of rules that is not limited by legislative regulations alone, but also includes the social norms different actors are required to follow. As illustrated in Figure 4, there is an interrelation between the various elements of that section. The legislation, informal structures and available resources determine the incentive mechanisms

between the participating actors, including their direction and coordination, and finally also the value of their efforts. These efforts lead to performance, which can have a particular impact in society. Finally, the actual performance and concurrent impacts influence the legitimacy of the whole governance system.

Importantly, the governance models in Figure 3 and Figure 4 indicate that 'governance-performance causality is complex' (Skelcher 2008) and performance itself can influence the governance arrangements. The issue of causality is crucial in corporate governance-performance research because without a strong causal link there is no basis for suggesting that governance influences performance, rather than vice versa. In the corporate governance literature to date there is no consensus on the nature of the causality in the governance-performance relationship (see Love 2010), leaving this issue open for further research. Skelcher (2008) questions the implicit assumption in public services reform initiatives that 'changes to governance arrangements will impact positively on performance outcomes.' He suggests a number of alternative hypothetical causalities between the forms of public governance and performance, such as 'the governance form arises because of performance', 'performance undermines the form of governance' and 'the governance form and performance are unrelated' (ibid.). In the same vein, Dubnick (2005) argues that the common assumption that accountability leads to enhanced performance is still 'unarticulated and untested.' Nevertheless, drawing together the concepts and literature presented in this subchapter, the tentative research framework that will be used for the analysis of governance-performance relationship in the empirical part of the dissertation implies a casualty where governance does influence performance.

In summary, the main concepts linked in this dissertation (i.e. corporate governance, accountability and performance) are broad and varied. For the purposes of the present dissertation, corporate governance and accountability are viewed as a framework that embodies a set of mechanisms (tools) influencing how governance actors interact with each other in public services companies. Through these interactions (e.g. reporting, decision-making) the performance (outcome) of a single organization or a network of organizations is achieved. Such a conceptualization emphasizes the importance of the following aspects in research about the influence of corporate governance on performance: (1) governance actors, (2) governance mechanisms, and (3) interactions between governance actors. Consequently, these aspects lead to a number of relevant questions to be answered while conducting the research in the present dissertation. At first it is important to identify the key governance actors and the applicable governance mechanisms in and around the public services companies explored. Thereafter, considering that the governance actors ultimately pursue their own interests, it is important to the research to identify the actors' specific interests in the companies. Differences in the interests of governance actors give rise to the principal questions in the present dissertation: What are the relevant features of the applied governance mechanisms? How do these features influence the

interactions between the governance actors and enable them to achieve their goals (i.e. determine performance)? As noted earlier, the governance-performance relationship is complex and it would be complicated to draw a simple (linear) relationship between them. This consideration is important for selecting the right research method – as will be explained later in chapter 2 – in order to capture the gist of the governance-performance relationships.

1.1.2. Performance expectations from the theoretical perspectives of corporate governance

The previous subchapter introduced the main concepts applied in the present research and established links between the concepts of corporate governance and performance. The aim of this subchapter is to review the main corporate governance related theories in order to understand the interests of governance actors (agency theory, stakeholder theory, stewardship theory) and the role of ownership (property rights, public choice theory, transaction cost, industrial organization theory) in influencing corporate performance.

The interests of governance actors in influencing corporate performance

The leading theoretical approach to understanding corporate governance, despite its limitations, is undoubtedly **agency theory** (Maassen 2002, Clarke 2007). Agency theory considers a company as a 'legal entity that serves as a nexus for a complex set of contracts (written and unwritten) among disparate individuals (Jensen 1983, Spence and Zeckhauser 1971, Ross 1973). Each of these individuals aims to maximize his or her own utility (Alchian and Demsetz 1972). The agency relationship is defined as a 'contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent' (Jensen and Meckling 1976). In the corporate governance literature, the typical view is that shareholders through the board are the principals and the management (CEO) is the agent (Tosi 2008). Under ideal circumstances, the principal can hire an agent whose interests are aligned with his/hers; however, the more typical situation is pointed out in the second row of Table 3 that the interests of the principal and the agent, both rational individuals, are divergent (ibid.).

Table 3. A comparative overview of theoretical expectations of the interests and performance of governance actors

Theory	Brief description	Performance expectations	Authors
Agency theory	The interests of the principal (owner) and the agent (manager) – both self-utility maximizing individuals – are divergent. The work and risk averse manager has information that the owner does not have in his/her possession that creates information asymmetry	Owner's wealth (profit) is the main performance objective of a company. Agency problems – *moral hazard and adverse selection* – hinder the owner from achieving his/her objectives in the company. Monitoring and/or incentive alignment is necessary to mitigate the agency problems for the owner to achieve the desired performance	Alchian and Demsetz (1972), Ross (1973), Jensen and Meckling (1976), Fama and Jensen (1983), Jensen (1983), Maassen (2002), Mallin (2004), Clarke (2007), Tosi (2008)
Stake-holder theory	The manager is simultaneously seen as an agent to multiple stakeholders (principals) not only to the owners of the company. Stakeholders contribute and expect benefits in the company	Managers need to reach a trade-off between the various interests of different stakeholders – there is not one singular corporate objective while performance encompasses achieving more objectives than maximizing owners' wealth (profit) alone	Hill and Jones (1992), Näsi (1995a, 1995b), Carroll (1996), Clarkson (1998), Macey (1999), Jensen (2000), Freeman et al. (2010)
Steward-ship theory	The goals of the steward (manager) and principal (owner) are aligned and the manager is motivated to act in the interests of the owner without extrinsic rewards or control	Managers do not intentionally shirk and exert moral hazard – the owners achieve their objectives under trust-based relationships without using mechanistic control mechanisms in the company	Block (1996), Davis et al. (1997), Maassen (2002), Cribb (2006), Van Slyke (2007)

Source: compiled by the author

Consequently, principals face two major agency problems with their agents:

1. *Moral hazard,* which is insufficient effort put forth by the agent or the misuse of company resources by the agent. This can occur when the contract is based on imperfect measures of individual behaviour (Shavell 1979).
2. *Adverse selection,* which is the misrepresentation of ability by the agent. This can occur if agents are motivated to misrepresent their private information to achieve their own goals (Tosi 2008).

Asymmetric information is the cornerstone of conflicts between the principal and the agent (Jensen and Meckling 1976). As the basis of agency theory is the self-interested utility-maximizing actors, the central question arises of how the principal can prevent the agent from maximizing his/her own utility (Jensen 1994). The definition of the principal-agent relationship as a contract between counterparties (Jensen and Meckling 1976) shifts the focus to the proper design of contracts to limit the opportunistic behaviour of the agent. The contracts between the agent and the principal are expected to specify agreements about what the agents (managers) can do with the funds and how the returns will be divided between them and the principals (shareholders). However, a problem related to designing contracts is that 'most future contingencies are hard to describe and foresee, and as a result, complete contracts are technologically infeasible (Shleifer and Vishny 1997). Maassen (2002) argues that the design of contracts is complicated by perhaps the most uncertain factor in the relationship between principals and agents: the agent's behaviour.

Solving agency problems causes costs – agency costs – for the principal. According to Fama and Jensen (1983) agency costs 'include the costs of structuring, monitoring and bonding a set of contracts among agents with conflicting interests. Agency costs also include the value of output loss because the costs of the full enforcement of contracts exceed the benefits.' Agency theory assumes that some monitoring and/or incentive alignment is necessary. The principals minimize the agency costs by balancing the cost of monitoring, the cost of risk shifting and the cost of unresolved agency problems (Tosi 2008). Monitoring is the direct or indirect observation of the manager's action or behaviour (Jensen and Meckling 1976). When the expected results are measurable, the agent's objectives can be aligned with the principal's objectives by making pay contingent on the results so it would be possible through the compensation (award) system to solve moral hazard and adverse selection problems. But linking the agent's pay to performance may shift risk to the agent since the results do not depend solely on the agent's behaviour. If risk sharing were optimal, monitoring would not be necessary since the contract is self-enforcing through agent and principal objective alignment (Singh 1985, McGuire 1988). Monitoring can solve both adverse selection and moral hazard problems. In general monitoring involves gathering information on (McGuire 1988):

1. The manager's (agent's) effort;
2. Exogenous factors influencing company performance and;
3. The outcomes.

If information on all three were available, there would be no agency problem since a contract can be based on the appropriateness of the agent's actions (Tosi 2008). Without knowledge of the agent's actions, the principals are exposed to moral hazard or adverse selection. Without knowledge of the external factors that may influence the degree of the agent's performance, the owners cannot judge the appropriateness of the agent's efforts, and may reward (or punish) the

agent for circumstances outside the agent's control. Without knowledge of the results, the principal cannot evaluate the relationship between the agent's actions and other external factors influencing the results (ibid.). Zajac and Westphal (1994) find that monitoring and incentive alignment might have different effects and that they are used by companies in different ways. They claim that companies often view incentive alignment and monitoring as substitutes and that companies with relatively weaker incentive alignment have more monitoring instruments in use, and vice versa. However, Tosi (2008) argues that the relationship between monitoring and incentive alignment seems to be more complex than the complementarity or substitutability articulated in agency theory, and that it is necessary to know more about whether and under what conditions more intensive monitoring, as differentiated from incentive alignment, will produce results consistent with the theory.

All in all, agency theory, focusing on governance actors' divergent interests embodies a conflict and assumes that agents cannot always be trusted to maximize the principal's utility (Maassen 2002). Donaldson (1990) emphasizes that agents cannot be trusted before they are under the principal's control via instruments (corporate governance mechanisms) that make it possible to minimize agency problems. The perspectives of corporate governance mechanisms in mitigating agency problems in a company will be discussed further in the next subsection 1.1.3. Nevertheless, agency theory can be applied to different organizational forms as long as there is a separation between agent and principal. As noted by Eisenhardt (1989a), the agency structure is applicable in a variety of situations ranging from macro level issues such as regulatory policy to micro level cases such as blame, impression management, lying and other expressions of self-interest.

If agency theory views the managers of a company narrowly as the servants of the shareholders, then in the **stakeholder approach** as pointed out in the third row of Table 3, managers are seen as agents of multiple stakeholders instead of shareholders alone. The contract between managers and owners is just one of the nexus contracts that make up the firm. According to Freeman et al. (2010), the question of what the management should do and who should matter in their decision-making is a central question in stakeholder theory. Freeman, the founder of the stakeholder approach, defines a stakeholder as follows:

> 'A stakeholder in an organization is (by definition) any group or individual who can affect or is affected by the achievement of the organization's objectives.' (1984)

The stakeholders have a stake in the company that can be reflected in voting power, economic power or political power that the stakeholders can use (Freeman 1994). According to Carroll (1996) 'a stake is an interest or share in an undertaking.' Näsi (1995b) refers to a claim 'being a demand for something due

or believed to be due.' The Scandinavian school emphasizes the *contribution* made by the stakeholder to the company and the *reward*, which the stakeholder demands in exchange for this contribution (e.g. money, goods, information, status, power, prestige etc.) (ibid.).

In the literature, primary and secondary stakeholders[3] are typically distinguished (Carroll 1996, Clarkson 1998, Freeman et al. 2007). The primary stakeholders have a formal, official or contractual relationship with the company, and they are vital for company survival and success, while secondary stakeholders have a more indirect relationship with the company and are not critical for company survival (see Appendix 2). Hill and Jones (1992) argue that managers are a group of unique stakeholders, due to their position at the centre of the nexus of contracts, who enter into contractual relationships with all other stakeholders. Therefore, they also point out that it is up to managers to make strategic decisions and allocate resources in a manner most consistent with the claims of other stakeholder groups (ibid.). Näsi (1995a) emphasizes, that taking care of the stakeholder balance is the most important operational goal for professional management. Donaldson and Preston (1995) argue that 'stakeholder management requires, as its key attribute, simultaneous attention to the legitimate interests of all appropriate stakeholders, both in the establishment of organizational structures and general policies and in case-by-case decision-making.' The literature addresses five important questions to managers for effective stakeholder management (Carroll 1996): (1) Who are the stakeholders? (2) What are their interests? (3) What opportunities and challenges do the stakeholders present to the firm? (4) What responsibilities does the organization have to the stakeholders? (5) What actions should the firm take to best respond to stakeholder challenges and opportunities?

Mitchell et al. (1997) propose three critical elements of stakeholder salience that refer to the degree to which managers give priority to competing stakeholder claims (Wickham and Wong 2009):

1. *Power* – itself does not necessitate high salience in a stakeholder-manager relationship. Power gets its authority through legitimacy and its exercise through urgency.
2. *Legitimacy* – needs the other two elements, power and urgency to gain its power and voice.
3. *Urgency* – in combination with at least one of the other two elements, will raise the level of salience in a stakeholder-manager relationship.

The task of simultaneously pursuing the interests of shareholders and various stakeholders can be rather contradictory. The critics of stakeholder theory offer that by having many different masters, the managers can easily do what they

[3] Stakeholders can be constructed in several other categories such as internal v. external, active v. passive, economic v. social, core v. strategic v. environmental (Carroll and Näsi 1997).

want and engage in self-dealing (Freeman et al. 2010). Health and Norman (2004) argue that ideas that ask managers to improve social and environmental 'bottom lines' in addition to net profit would sharpen the multitask incentive problem because responsibilities to multiple stakeholder groups could generate multi-principal problems. Mallin (2004) raises the question that, if the directors of the company are held responsible for the shareholders and various stakeholders, 'then what would be the corporate objective?' In the same vein, other critics (Jensen 2000, Sundaram and Inkpen 2004) claim that it is essential for a company to have a singular objective (Freeman et al. 2010). Jensen (1989) argues that it is not possible for the company to have multiple constituencies for whom they have to maximize returns, and that shareholders should be considered most important in managerial decisions. Jensen (2000) and Sternberg (2000) point out that if managers are accountable only to shareholders, it would be easier to assess their performance.

However, Freeman et al. (2010) argue that stakeholder theory is explicitly a managerial theory and developed 'to help managers acknowledge and deal with the complex reality.' They emphasize that stakeholder theory provides 'a more realistic view of business.' Yet, Donaldson and Preston (1995) note that the stakeholder approach is useful in research for descriptive, normative and instrumental reasons. Philips et al. (2003) note that stakeholder theory can be applied to companies of any size, and not only to companies, but also partnerships, nonprofit and government organizations.

Finally, **stewardship theory**, as opposed to agency theory in the fourth row of Table 3, assumes goal alignment between the actors, and is seen as an important framework for structuring relationships (Block 1996). Stewardship theory 'defines situations in which managers are not motivated by individual goals, but rather are stewards whose motives are aligned with the objectives of their principals' (Davis et al. 1997). Thus, the goals of stewards and principals are aligned and a steward is motivated to act in the interests of the principal. According to Van Slyke (2007), mechanisms that motivate individuals to behave as stewards include organizational structure, autonomy and responsibility, empowering governance structures and trust. Lambright et al. (2010) argues that unlike the agents in agency theory, who focus on extrinsic tangible rewards, stewards focus on intrinsic intangible rewards. Nevertheless, as Cribb (2006) argues, the stewards also have survival needs (e.g. regular salary), but they differ from agents in that they recognise a trade-off between personal and organizational needs.

All in all, stewardship theory, focusing on governance actors' aligned interests embodies a consensus perspective, which assumes that managers (agents) 'do not intentionally shirk and exert moral hazard (Maassen 2002). Thus, there is no role for formal corporate governance mechanisms (e.g. corporate boards) in aligning the conflicts of interest between managers and shareholders in a company. As Van Slyke (2007) argues, the principal-steward relationships are rather 'output-based relationships in which responsibility and trust

are the foundations for long, mutually aligned contractual relationships'. Vice versa, control through corporate governance mechanisms can be counter-productive, as noted by Cribb (2006), indicating that the steward is not trusted, which can reduce the motivation of the steward to work for the company. Therefore, in contracting relationships stewardship theory views accountability mechanisms such as monitoring, auditing or reporting as superficial (ibid.).

In summary, it can be argued that agency theory, stakeholder theory and stewardship theory summarized in Table 3 provide various perspectives on the interests of governance actors regarding corporate performance. Agency theory involves a theoretical conflict in interactions between the key governance actors, where the agent is not intrinsically pursuing the performance goals set by the principal. In order to align the governance actor's goals and mitigate agency problems that can erode corporate performance, agency theory suggests applying governance and accountability mechanisms in the principal-agent relationship. This gives rise to an important question for the present research in terms of what mechanisms and how should they be established by the principals in order to ensure goal alignment and avoid the agent's opportunistic behaviour? Moreover, stakeholder theory expands the narrow principal-agent relationship and argues that a manager (agent) must attend to the interests of various stakeholders (principals) not only the shareholders. This can be a rather contradictory task because of the stakeholders' multiple and divergent interests regarding corporate performance. Therefore, in the multi-principal context an important question for research arises of how governance mechanisms can be used to balance the various interests of stakeholders and achieve multiple performance goals? Finally, stewardship theory, relying on a different assumption about human behaviour in comparison to agency theory (i.e. no intentional shirking by the steward or moral hazard is assumed), suggests promoting trust and responsibility rather than applying mechanistic control tools over stewards (managers) to influence corporate performance. This leads to important questions about whether the managers are behaving more like agents or stewards and in what way is stewardship achieved in companies? Therefore, through different theoretical filters, these three theories of corporate governance address the importance of goal alignment between the governance actors in influencing corporate performance. The question that emerges in the context of the present dissertation is which governance mechanisms can facilitate this and under what conditions.

The role of ownership in influencing corporate performance

The previously explored corporate governance theories did not emphasize the role of ownership in influencing corporate performance. The following theoretical approaches summarized in Table 4 when used together make it possible to provide deeper insights into the ownership-performance relationship considering the particular context (industry) of the company.

Table 4. A comparative overview of theoretical expectations of the influence of ownership on performance

Theory	Brief description	Performance expectations	Authors
Property rights theory	Private owners compared to public owners have more clearly defined incentives to pursue efficient decision-making by managers within the company	Privately owned companies are relatively more efficient than publicly owned companies, because their owners benefit personally from actions that improve the efficiency and profitability of the companies	Alchian (1965), Demsetz (1967), De Allesi (1983), Asher et al. (2005)
Public choice theory	Public servants and managers act in their own self-interest that may cause greater costs and conflict with the performance enhancing goals of the company	Publicly owned companies are relatively less efficient than private companies, because the managers in publicly owned companies substitute their own goals over the efficiency of the companies	Tullock (1965), Niskanen (1968, 1971), Ostrom and Ostrom (1971), Stretton and Orchard (1994)
Transaction cost theory	The choice of ownership form is a function of the transaction costs derived from the delegation of authority in public services provision	Efficiency improvement from private ownership emerges when transaction costs are small – no difference in efficiency in monopoly markets when transaction costs are relatively high	Coase (1937), Sappington and Stiglitz (1987), Williamson (1985, 1999), Menard (2005), Warner and Bel (2008)
Industrial organization theory	Alignment of managers' and owners' objectives influenced by the market structure is the rationale for differences in efficiency between privately and publicly owned companies	The influence of factors that facilitate the alignment of managers' and owners' objectives is weak in monopoly markets – no difference in efficiency between monopoly companies with public and private ownership	Kay and Thompson (1986), Vickers and Yarrow (1988), Bel et al. (2010)

Source: compiled by the author

According to **property rights theory**, private owners, as residual claimants, have more clearly defined incentives to motivate managers towards efficient decision-making within a company as revealed in the second row of Table 4. Ownership gives them the right to obtain benefits from managing a company's assets efficiently and effectively. Conversely, bureaucrats, politicians and

citizens have diminished property rights in respect to the gains associated with improved public sector company performance, which will lead to reduced incentives to push for improvements. The bureaucrats may have the control rights under public ownership, but not the profit rights, and thus cannot directly benefit from the profits generated by efficiency improvements.

Moreover, together with property rights, Hart, Shleifer and Vishny (1997) have applied the theory of incomplete contracts to the theoretical framework of public services provision by publicly or privately owned companies. They have also suggested that private provision provides more incentives to improve efficiency, but that this may happen at the expense of service quality. Therefore, to ensure service quality under private ownership, some additional supervision by public sector authorities is required (Guttman 2000, Bozeman 1987).

Public choice theory, as shown in the third row of Table 4, emphasizes that managers of publicly owned companies potentially exhibit inefficient behaviour. Public choice theory typically argues that public sector managers behave like typical neoclassical individuals and act in their own self-interest, for example, by attempting to maximize the size of their own budgets. Public production as such is considered to be inefficient and excessive (Niskanen 1971). Thus, the combination of poor supervision seen in the concept of property rights theory, and self-interested managers arising from public choice theory, is together expected to create managerial discretion and inefficient behaviour in publicly owned companies.

The presence of mixed ownership, embodying elements of public and private ownership, complicates the ownership-performance debate (Oum et al. 2006). However, from a theoretical perspective, the results of mixed ownership on corporate performance are not clear (Bös 1991). Mixed ownership might be an optimal combination mitigating the disadvantages of pure public and private ownership (Schmitz 2000, Marra 2006), but it may also embody the worst of both worlds (Ehrlich et al. 1994, Vining and Boardman 2008).

In comparison to property rights and public choice theory, **transaction cost theory** as applied to public services delivery in the fourth row of Table 4 pays more attention to the nature of the service, the contracting process and the market (Warner and Bel 2008). According to the fundamental features identified by Coase (1937), transactions occur inside the firm when market transactions incur higher costs than internal transactions. Williamson (1985, 1999), followed by the new institutionalists (Menard 2005), characterize transactions through three major aspects that may result in costs being incurred: (1) uncertainty regarding how the transaction develops and its results, (2) the frequency with which transactions are repeated, and (3) the relative requirement of long-term investments specifically related to the transaction, or "sunk costs". Thus, depending on the characteristics of the particular public service with regard to these aspects, the opportunities for cost savings will differ. Whether private or public production should be preferred depends largely on transaction costs derived from the delegation of authority (Sappington and Stiglitz 1987). Monitoring and control have

a crucial role, and cost minimization refers to both the transaction and transformation (production) costs implied by private production. Efficiency improvement from private production is likely to emerge when transaction costs are small.

Finally, **industrial organization theory** in the fifth row of Table 4 emphasizes the importance of the relationship between incentives and ownership that under a given market structure may cause differences in efficiency between privately and publicly owned companies. According to industrial organization theory, private ownership should be preferred to public when (1) owners benefit from devoting time and money to obtaining the information needed for supervision, (2) firms are exposed to the possibility of being taken over, and (3) firms are at risk of bankruptcy (Bel et al. 2010). Market structure has a central role in determining how these three characteristics can improve the alignment between the interests of owners and managers. These facets are not, however, common to monopoly markets (Kay and Thompson 1986, Vickers and Yarrow 1988).

In summary, of importance to this research is the recognition that based on the discussed theories ownership structure can influence corporate performance. According to property rights and public choice theory privately owned companies are likely to outperform publicly owned companies. As opposed to property rights and public choice theory, transaction cost and industrial organization theory emphasize that the influence of ownership structure on corporate performance depends on the nature of the industry the company is involved in. Moreover, they indicate that privately owned companies are not likely to outperform publicly owned companies in monopoly markets when transaction costs are relatively high. However, these theoretical perspectives lead to an exploited, albeit important question in the present governance-performance research about whether privately owned companies are more efficient than publicly owned companies *per se*. Moreover, in light of the previously discussed agency and stewardship theories, the relevant question arises of how the influence of ownership structure depends on the governance mechanisms applied in the particular industry context?

1.1.3. Corporate governance mechanisms influencing company performance

In a broader sense, governance mechanisms are defined as 'any institutional arrangement that serves to influence the exchange process' (Hesterley et al. 1990). Corporate governance mechanisms arise as a response to agency problems (Shleifer and Vishny 1997, Love 2010), and have two main functions in a company: coordination (i.e. obtaining mutual benefits) and safeguarding against conflicts (Bijman 2006). In the literature, the majority of corporate governance studies focuses on agency problems between shareholders and managers (Filatotchev and Nakajima 2010), which stem from the separation of ownership

and control[4]. To cope with these internal agency problems associated with managers' opportunistic behaviour, the misalignment of goals and distortions of managerial incentives, the shareholder can deploy internal governance mechanisms in a company. The board of directors, internal auditors, charter provisions, internal ownership, block-holders and executive compensation are often referred to as internal governance mechanisms in the literature (Gillan et al. 2007). Moreover, the literature also describes external governance mechanisms, such as the market for corporate control, legal and regulatory rules, investor monitoring, labour and product markets, the external stakeholders exercise over the company (ibid.). Yet corporate governance mechanisms are categorized as formal *versus* informal mechanisms. Formal mechanisms are seen as any instrument codified by a contract or explicitly embodied within a legally enforceable or regulatory framework (AOM 2006), such as incentive contracts (Barkema and Gomez-Mejia 1998), disclosure regulations (Hillman and Dalziel 2003) and the market for corporate control (Fama 1980). Informal mechanisms are viewed as any influence upon opportunistic behaviour that is implicit or non-binding legally (AOM 2006), such as institutional norms (North 1990), reputation (Baysinger and Hoskisson 1990), and trust (Das and Teng 1998, Gambetta 1998, McQuaid 2010). Trust is viewed as a vital component in corporate governance and the absence of trust can be deeply corrosive, as argued by Clarke (2007). The interaction between the different corporate governance mechanisms, which may be substitutes or complements, is argued to determine the effectiveness of the entire governance system in a company (Jensen 1993, Shleifer and Vishny 1997). Among the various governance mechanisms, corporate boards stand out as 'the fulcrum of corporate governance' (Clarke 2007) with a central position in solving and avoiding agency problems. Moreover, the concepts of the board and corporate governance are often even used as synonyms in corporate governance literature (Thomsen 2008). That is why the remainder of the current subchapter primarily focuses on exploring the theoretical perspectives of how the board influences corporate performance.

The board in models of corporate control

The international development of corporate governance has resulted in two major corporate governance models that incorporate the board(s) to the control delegation (Mallin 2004): the Anglo-Saxon one-tier model and the German two-tier (dualistic) model. As shown in Figure 5, under the one-tier model, adopted with some variations in the UK, the US and Canada, the shareholders delegate

[4] Berle and Means (1932) coined the phrase 'the separation of ownership and control' in their landmark book *The Modern Corporation and Private Property*, which has remained the most widely used expression and dominant of thinking in the literature on corporate governance (Margotta 1989, Hawley and Williams 2000).

some of the control to the board, where executive and non-executive directors act together – in one organizational level.

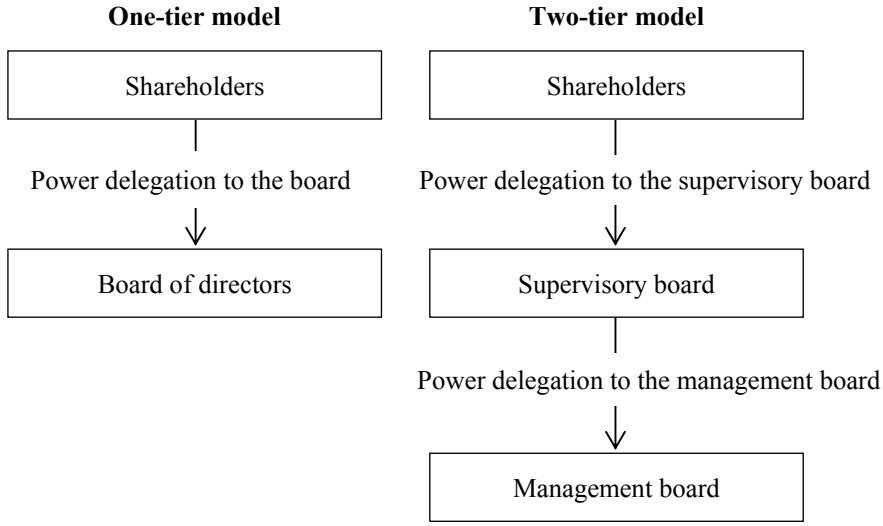

Figure 5. One-tier versus two-tier corporate governance model: control delegation between the layers (source: adapted from Clarke 2007)

The dominant view on boards is that boards act as a control mechanism to reduce the potential divergence of interests between the corporate management and the shareholders (Stiles and Taylor 2002). Some boards are dominated by a majority of executive directors, while others are composed of a majority of non-executive directors (Maassen 2002). In addition, the board can have a board leadership structure that separates the Chief Executive Officer (CEO) and chair positions of the board, but there can be also a board leadership structure that combines the roles of the CEO and the chairman (ibid.).

The two-tier governance model as opposed to the one-tier model includes control delegation between three layers as shown in Figure 5: shareholders, supervisory board and management board. This model adopted with some variations in continental Europe (e.g. Germany, Finland and also in Estonia) separates the execution from the monitoring function (Maassen 2002). If the supervisory board is composed of non-executive board members that may include not only shareholder representatives, such as employee representatives in Germany (Grossi and Reichard 2008), the management board is usually composed of executive directors. Simultaneous membership in the supervisory and the management board is not permitted by corporation laws in the two-tier system (Jungmann 2008). While the CEO does not belong to the supervisory board, its board leadership structure is formally not dependent on the executive

function of the board (Maassen 2002). In principle there is a clear separation of tasks in the two-tier governance model: supervision (decision control) is the main function of the supervisory board, whereas (decision) management issues are reserved for the autonomous management board (Jungmann 2008). All in all, in both the one-tier and two-tier governance models the board has a central role to play in exerting control. It embodies a significant formal power in the corporate governance models, though, as argued by Aghion and Tirole (1997) and Tirole (2001), formal control does not necessarily imply real control.

The role of the board[5]

The growing theoretical debate on the board's strategic contribution was originally initiated by Fama and Jensen (1983), who stated that companies make a distinction between 'decision management' and 'decision control' activities. 'Decision management' relates to executive directors conducting the company's functions, such as the initiation of proposals and their implementation, while 'decision control' refers to the tasks of non-executive directors, such as approving and overseeing the performance of the decision management function[6]. In the case of the two-tier model, these two functions are formally separated between the management and the supervisory board. Such a separation becomes important from the shareholders perspective of corporate governance because this is based on the assumption that the more independent the supervisors are from the management, the better they serve the interests of shareholders (Maassen 2002). In the context of the agency theory discussed in subchapter 1.1.2, the separation of management and control should avoid the agent without ownership in the company enhancing his or her own interests through decisions that are not optimal for the principal. Thus, the board is viewed as a governance mechanism intended to ensure that the interests of shareholders and managers are aligned, and if necessary that ineffective managers be removed (Barnhart et al. 1994, Park and Shin 2003). In addition to overseeing, the traditional tasks of the board are also related to CEO appointment and remuneration (Mallin 2004, Thomsen 2008).

Besides the classic board function – control – two other types of roles – 'service roles' and 'strategic roles' – are also often attributed to boards in the literature on corporate governance (Mintzberg 1983, Zahra and Pearce 1989, Gopinath et al. 1994, Johnson et al. 1996, Jonnergård et al. 1997, Hung 1998). In terms of the service roles, the members of the board are viewed as contributing to the company as follows (Mintzberg 1983, Johnson et al. 1996, Thomsen 2008):

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[5] Here and hereinafter the term 'board' stand for the board of directors as per one-tier governance model and the supervisory board as per German two-tier model.

[6] In their model Fama and Jensen (1983) describe initiation, approval (ratification), implementation and monitoring (evaluation) as the four steps in decision making.

- Giving advice to the management during the strategy planning and implementation process;
- Networking, i.e. building and keeping contacts with important partners that provide resources for the company (e.g. financiers);
- Building and maintaining the company's image in the eyes of the general public;
- Co-opting important external stakeholders. By incorporating influential stakeholders from the business environment into the board, the company aims to strengthen its links with the influencer and diffuse their power.

In terms of the strategic role of boards, it is proposed that boards not only approve strategies and monitor their fulfilment, but also participate in strategy making because the interests of board members and managers are not necessarily divergent (Demb and Nebauer 1990, Davis et al. 1997). This position contradicts the view that boards should remain independent and separate from strategy development (Fama and Jensen 1983, Goodstein et al. 1994, Ezzamel and Watson 1997, Hendry and Kiel 2004). However, in the literature, the role of the board in preparing and implementing strategy has been debated for years (Andrews 1981, Judge and Zeithaml 1992, McNulty and Pettigrew 1999) without consensus on appropriate practice in terms of the strategic contribution the board can make (Daily et al. 2003, Jensen and Zajac 2004, Pugliese et al. 2009). Pugliese et al. (2009) conclude in their comprehensive review article with reference to Zahra and Pearce's observation from 1989, that 'there is controversy over the nature of [the] directors' strategic role. From the theoretical perspective a conflict perspective (agency theory) and a consensus perspective (stewardship theory) can be recognised as discussed earlier in subchapter 1.1.2, which respectively provide arguments against and for the active participation of the board in strategy development.

Elements of the board

The board is a system formed by board elements (Clarke 2007). Carter and Lorsch (2004) distinguish three key elements in a board: (1) *board structure* referring to board size, leadership and the committees; (2) *board composition* referring to experience, skills and other attributes of board members, and (3) *board processes* referring to how the board conducts meetings and makes decisions. Maassen (2002) distinguishes *board characteristics* as a separate board attribute that comprises the background, gender and age of board members, but also their social and educational backgrounds, tenure and work experience. Carter and Lorsch (2004) refer to the relationship between board elements and performance:

> 'The more effective the elements in the board's design are aligned with each other and with the board's role…the more likely the system is to produce behaviours that will make the board effective.'

The combination of board attributes, according to Zahra and Pearce (1989), is determined by internal and external contingencies, such as environmental and industry factors. Other authors (see Maassen 2002) have recognised other important contingencies such as legislation, shareholder activism, ownership structure, and legal and regulatory systems. In the context of the present research, it is important to recognise that contingencies can influence how the elements of the board are organized and consequently how the board members fulfil their roles and in the end how they contribute to corporate performance.

A significant part of corporate governance debates in the literature is related to board diversity and independence (Milliken and Martins 1996). Diversity of board membership (i.e. variety in the composition of board members) is considered desirable and performance enhancing for two reasons: (1) the diversity increases discussion, the exchange of ideas and provides the board with new insights and, (2) from the stakeholders' perspective various stakeholders' representatives in the board can protect the shareholders interests (Kang et al. 2007). Independence is generally understood as the absence of any relationship or circumstance which could affect the judgement of the board members (Mallin 2004) and this is a highly recommended element for the effectiveness of the board (Chandler 1975, Clarke 2007, Kang et al. 2007). Nevertheless, there is no final consensus on the exact definition of an independent (or external) director (Kang et al. 2007). The UK *Combined Code* (2003) on corporate governance considers a board member independent if the member is not a former employee of the company within the last five years, does not get additional remuneration from the company except from the board fees, has no close family connections with company managers, has not served the board for more than ten years and does not represent a significant shareholder. The independence of board members presumes that these members can make a positive contribution to the board's monitoring responsibilities, which leads to improved corporate performance (Beasley 1996, Anderson et al. 2004, Kang et al. 2007). However, a contradiction to this traditional assumption is that if most of the board members should be independent with no relationship to the company, they are not likely to know much about the business and need to learn from and rely on executive management (Clarke 2007).

Furthermore, in order to ensure the overall independence of the board, it has been advocated that the chairman[7] of the board should also be an independent member (Kang et al. 2007) because the chairman is considered a key actor in corporate governance relationships (Clarke 2007). In the two-tier governance

[7] Hereinafter the term 'chairman' refers to the chairman of board of directors as per one-tier governance model and the chairman of supervisory board as per German two-tier model.

model, the responsibilities of the chairman are separated from responsibilities of the CEO, another key governance actor, and not embodied in one and the same person. The CEO's role is considered a full-time post, responsible and accountable for operational activities, the setting and implementing of corporate strategy and ultimately for the performance of the company. The chairman, however, is viewed as a part-time, independent position to ensure that the board works effectively and to evaluate the performance of the CEO (Cadbury 1992, Higgs 2003). However, Kakabadse and Kakabadse (2007) argue that 'challenged is the assumption that the role of chairman is universally comparable' emphasizing that the role of the chairman in a company may vary. Nevertheless, the literature highlights several features attributable to an effective chairman: great involvement, sound knowledge of industry specifics, independence of mind and previous experience in corporate boards (Coombes and Wong 2004). Yet Kakabadse et al. (2006), in one of the few empirical studies conducted on chairman-CEO relationships, add that 'effective governance application is dependent on the chairman and CEO nurturing a supportive and transparent relationship and manner of interaction.' In the same vein, Westphal (1999) suggests that 'in fact board effectiveness and ultimately, firm performance may be enhanced by close, trusting CEO–board relationships combined with moderate to high levels of CEO incentive alignment.'

In the public sector context, considering that publicly owned companies embody contradictory interests, the role of board members is more challenging and complex than in privately owned companies. Consequently, recommendations in various corporate governance codes are to a great extent concerned with board functions and board structures (OECD 2005, OECD 2011a, OECD 2011c). The OECD *Guidelines on Corporate Governance of State-Owned Enterprises* from 2005, based on experience of its member countries, shares one major governance challenge of publicly owned companies:

> 'To find a balance between the state's responsibility for actively exercising its ownership functions, such as the nomination and election of the board, while at the same time refraining from imposing undue political interference in the management of the company.'

According to the political view of publicly owned companies, having politicians in the board is problematic due to political interference in the decision-making process, which distorts the goals defined for the managers (Shleifer and Vishny 1994). In other words, politicians in the board are viewed to serve their own political goals aiming at ensuring success in elections and tenure in political power (Boubakri et al. 2008). The goals pursued by politically-oriented board members are not necessarily in line with profit and value maximization (ibid.). Moreover, the effects of politically appointed boards on performance may depend on whether the board members belong to a right- or left-wing political party. According to conventional wisdom, left-wing political parties favour the interests of stakeholders (non-financial performance) over shareholders

(financial performance) (Callaghan 2009). Or as Monsen and Walters (1983) state 'right-wing socialists have always wanted to see nationalized companies be efficient and enterprising' emphasizing the difference in political views about the performance of state owned companies. However, the OECD *Guidelines* (2005) suggest that the board members of publicly owned companies should have the relevant competence and experience, and it is advisable that they are recruited from the private sector. On the basis of Italian and German publicly owned companies, Grossi and Reichard (2008) argue that membership of municipal council members in the corporate boards seems to be questionable because politicians rarely have the experience or necessary skills required to manage companies. Furthermore, the OECD (2005) recommends that board members 'should not act as individual representatives of the constituencies that appointed them' and they should 'be capable of independent judgement.' Still, Wettenhall (1985) argues that an independent board may 'shelter its misdeeds' if there is little control by politicians, which again suggest holding publicly owned companies subject to public controls (Wettenhall 1968, Thynne 1991, 1995). Moreover, Menozzi et al. (2010) indicate that publicly owned companies under an independent board can face a specific performance influencing 'double agency' problem that might arise between managers and board members, on one hand, and between politicians and the ultimate owners of the company, the citizens, on the other hand. However, Shirley and Nellis (1991) conclude based on their observations that politicians cannot avoid interfering in publicly owned companies regardless of barriers established to prevent this. Consequently, the problem of political discretion is considered to remain a major problem relative to the problems of managerial discretion influencing the performance of publicly owned companies (Boycko et al. 1996).

In summary, various corporate governance mechanisms with different natures can be distinguished, and these interact and may be used as substitutes or complements in a company. An understanding of how the different governance mechanisms interact is important in interpreting their role in solving and avoiding particular agency problems. However, it can be concluded that corporate governance mechanisms may improve corporate performance through better coordination and supervision over managers in the following ways (Love 2010): (1) with better supervision, managers are more effective in their operations and spend fewer resources on non-productive activities; (2) there are more value-maximizing decisions and investments made in the company. Among other corporate governance mechanisms, the board appears as a central governance mechanism available for shareholders' use in the pursuit of their performance objectives in the company. Of importance to this research is the recognition that board contingencies, elements and roles in combination influence how the board members fulfil their roles and ultimately how the board influences corporate performance. Regarding boards, the discussion in this subchapter leads to a number of relevant questions to consider: (1) What is the functional emphasis of the boards? (2) What are the peculiarities of the board

members? (3) How do these aspects influence corporate performance? Moreover, in this context what is the interaction between the chairman and CEO as key governance actors?

1.1.4. Generation, incorporation and the use of performance information to influence performance through governance mechanisms

As noted earlier, information asymmetry is the cornerstone of agency conflicts (Jensen and Meckling 1976) and the availability of performance-related information plays an important role in aligning governance actors' interests through established governance mechanisms. In a principal-agent relationship, however, before the performance information can be disclosed to the principal (stakeholders), it must get generated and delivered by the agent (manager). Therefore, considering the integrative potential of performance information, the present subchapter seeks to explore the theoretical requirements for performance measurement and management systems to supply stakeholders with appropriate performance information to control and influence corporate performance. Moreover, in the literature the term 'performance' is variously associated with 'information', 'measurement' and 'management,' which are often used interchangeably. For a clear separation between the concepts, in this dissertation uses *performance measurement* to mean activities aimed at obtaining information on performance, while *performance management* is about incorporating and using the performance information in decision-making and control (Van Dooren et al. 2010, Collier 2008a). In other words, performance measurement means activities that quantify performance, while the result of these activities is *performance information* (ibid.).

In the literature, a variety of purposes for performance information are suggested. Van Dooren (2006) argues that a total of forty-four potential uses of performance information can be distinguished. Behn (2003) suggests eight different managerial uses of performance information, such as evaluation, control, budgeting, motivating, promoting, celebrating, learning and improving. Van Dooren et al. (2010) summarize via a more compact categorization by pointing out the following purposes for performance information: (1) learning – to find out what works and why (not), (2) steering and control – motivating and sanctioning, and (3) account giving – communicating and explaining past performance. The present research deals with issues of performance information mostly in the context of 'steering and control' and 'account giving.'

As noted earlier, before saying someone is accountable for any performance, there should be a prior assignment of responsibilities, in other words, performance goals and targets (Thomas 1998, Llewellyn 1998, Koppell 2003, Brito and Perrault 2009). Setting performance targets is viewed as the first step in a performance measurement process. Otley (1987) and Kloot (1999) distinguish

three basic building blocks in performance measurement: (1) the performance that an organization is seeking to encourage, (2) the standards and, (3) the rewards or penalties related to achieving performance targets. Van Dooren et al. (2010) present an (ideal-type) analytical performance measurement model, which depicts performance measurement as a process of five related steps as shown in Figure 6.

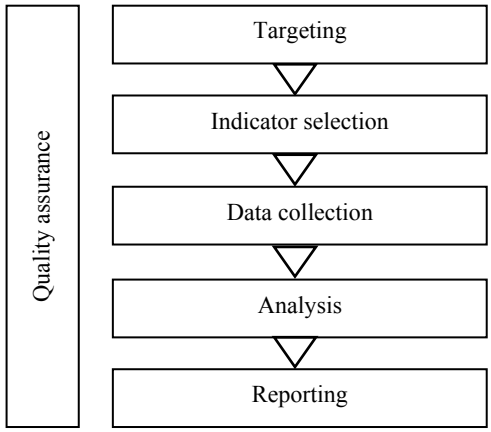

Figure 6. An ideal-typical performance measurement model (source: Van Dooren et al. 2010)

The first step – *targeting* – questions what will be measured. From a simplistic view, if you start out with a goal in mind, you are more likely to reach it. This has been the main idea and assumptive strength behind the Management by Objectives model (MBO) (Drucker 1954), which declares that if a desired outcome is defined as a goal or objective and the progress towards reaching the goal or objective is measured then the chances of reaching that outcome are enhanced. The MBO concept introduced the SMART criteria[8] (Doran 1981) that are considered as good predictors of effective goals; that is, goals that shape behaviour. Kaplan and Norton (1992) in their widely used balanced scorecard model consider the following four dimensions of performance for targeting: (1) financial perspective, (2) internal business perspective, (3) customer perspective and, (4) innovation and learning perspective. Van Dooren et al. (2010) argue that measurement can be targeted at the interests of the most important stakeholders.

[8] The acronym SMART stands for the characteristics of an effective objective: Specific, Measurable, Actionable, Reasonable and Time-bound. Objectives that meet the SMART criteria are more likely to shape behavior than those that are low in these characteristics (Doran 1981).

The second step – *the selection of indicators* – is the question of how to measure and deals largely with the selection of appropriate performance indicators. The selection of performance indicators is dependent on how performance information will be used. The production model of performance (see Appendix 1) is often seen as the basis for defining indicators (Van Dooren et al. 2010) in the public sector context. Performance indicators are generally identified as input, process, output and outcome (Hatry 1999). Input is a measure of the resources (e.g. funds, employees, time) provided for the activity being measured. Process indicators measure activities by comparing what is done with what should be done according to standard procedures over a period of time. Output indicators measure the quantity and quality of the end product, while outcome indicators measure the degree to which the end product achieves the project (program) objectives (ibid.). The production model of performance by Bouckaert and Halligan (2008) also addresses the creation of ratio indicators combining the different dimensions of the model (e.g. input-to-output indicators). Moreover, in the literature there can be found a number of criteria a good performance indicator should meet, such as 'sensitive to change', 'precisely defined', 'understandable for users', 'documented', 'relevant' and 'complies with coordinated data processes and definitions' (Van Dooren et al. 2010).

However, the third and the fourth step in the performance measurement model in Figure 6 are respectively about *data collecting* and *analysis* to turn collected data on actual results ultimately into meaningful performance information for decision-makers. A typical approach here is to compare the actual results with initial targets or competitors' results, which are useful for account giving (Van Dooren et al. 2010). But the results can also be broken down or consolidated when conducting the analysis. The last step – *reporting* – refers to the question of what is the right reporting format for a particular target group. Van Dooren et al. (2010) suggest that annual reporting could be a good instrument for reporting to stakeholders and interest groups, while oral communication with scorecards would be suitable for reporting to the top management. News flashes and publicity are suggested as instruments for reaching the general public through the media (ibid.).

Indeed, performance measures can be an important tool for understanding performance, but without a process for using this information, it is of limited value. Van Dooren et al. (2010) also propose a hierarchical three-cycle model for the integration of performance information into public sector management. Generally, their model follows the logic of Deming's model, commonly known as the PDCA (Plan, Do, Check and Act) cycle (Deming 2000).

The three related cycles as revealed in Figure 7 become important for managing performance in the public sector. At first the performance information will be incorporated in the policy cycle by determining the objectives and targets for resources, activities, outputs and outcomes in a strategic plan (ibid.). In the literature there are a number of authors suggesting that

performance measures should be derived from strategic plans (Globerson 1985, Mintzberg and Quinn 1988, Kaplan and Norton 1992). Argento and Grossi (2010) view the strategic plans as the landmark for defining the financial and non-financial objectives of public services providers. These plans must be monitored and consequently evaluated, performance information gets incorporated into monitoring and evaluation documents for assessing past performance (Van Dooren et al. 2010).

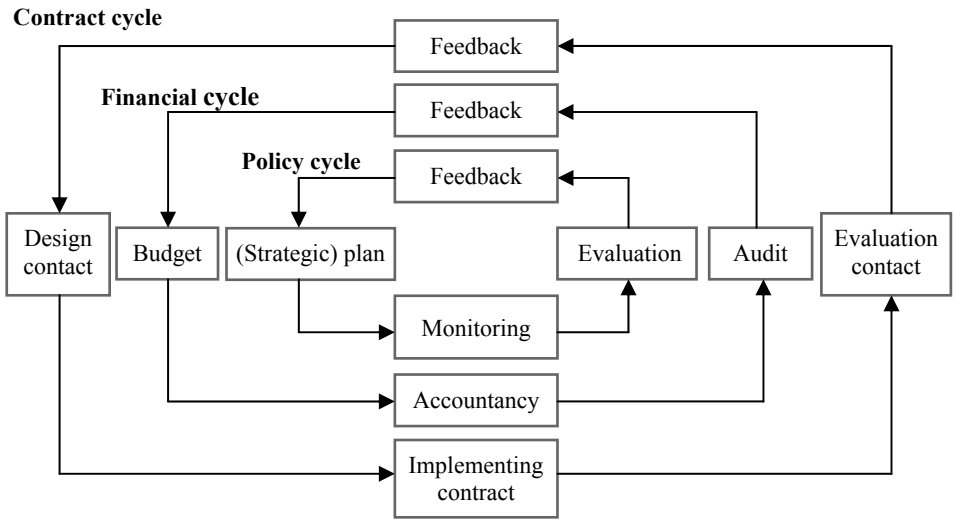

Figure 7. Incorporation of performance information (source: Van Dooren et al. 2010)

The second cycle – the financial cycle – embedded in the policy cycle translates the priorities into budgets. Bryson and Boal (1983) state that goals will be taken seriously in the planning process only if the budgets depend on them. In the ideal-typical situation, the strategies and budgets should correspond to strategic plans and incorporate the same information in a different way (Schedler and Siegel 2005, Van Dooren et al. 2010). Berry and Wechsler (1995) argue that it might be problematic in the public sector to maintain a long-term view of activities, when public budgeting is mostly annual basis. Budget implementation should be controlled through the accounting system. Ter Bogt (2001) claims that only integrated information about proposed (e.g. budgeted) and realized performance (e.g. accounted) can contribute to effective control. The final element of the financial cycle is related to conducting performance audits.

The third cycle of the performance management model – the contract cycle – is related to the question of who (e.g. which agency) will perform one or another particular task under contract. The contract cycle is determined by the financial cycle. There the obligations and rights of the key actors or organi-

zations in the contracts are stipulated (Van Dooren et al. 2010). The contracts should state the expected output and outcomes produced by the agency in return for earned revenues. Schedler and Siegel (2005) argue that objectives will only be effective if they are accordingly linked to motivation and sanction mechanisms. To implement the contract there should be a monitoring system in place, which also includes reporting on the basis of key performance indicators. According to the model, contract implementation is evaluated in the context of accountability and actual results are measure against targets in the contract. Finally the realisation of targets will provide input for the next contract cycle (Van Dooren et al. 2010).

In summary, the discussion above indicates that clearly stated objectives and appropriate performance measures, which allow the principal to measure progress towards the objectives, are needed to control and influence corporate performance. Moreover, in order to ensure accountability for (multifaceted) performance and enhance the achievement of various interrelated goals in different principal-agent relationships, it becomes important to link different management processes, such as planning, budgeting, measurement and reporting, and result-based decision-making, through a systematic use of performance measures. An integrated performance measurement and management system can contribute to achieving this task. Yet, considering that different actors may be accountable for the achievement of different (long-term and short-term) goals, a performance measurement and management system seeks to enhance coherence between them. However, for the purposes of the present dissertation, this leads to an important question about what and how performance information is generated, incorporated and used in governance relationships? Furthermore, ultimately the question is of how this enables the principal to control and influence corporate performance.

1.2. Shifts in public services provision and performance expectations

The dissertation has to this point provided the main concepts and theories applied in the study, such as corporate governance, accountability and performance, and explored the theoretical background of governance-performance relationships. Subchapter 1.2 takes the governance-performance discussion further into the context of public services[9] provision by expanding the focus from governance interactions within a single company (micro level) to interactions between a company and local government (meso level). In light of public services externalization, differences in the roles of contractor (local

[9] The term 'public services' usually stands for services provided by (local, regional and central) government to its citizens, associated with a social view that certain services should be available to all, regardless of income.

government) and provider (public service company) will be discussed along with the challenges and promises of governance mechanisms in avoiding performance eroding conflicts. Subchapter 1.2 ends with a review of empirical evidence from previous studies about the relationships between governance and performance in public services provision.

1.2.1. Externalization of public services in pursuit of performance improvement

Debates on the government's role in public services provision can be traced back at least as far as Adam Smith (1759), who argued in his first book *The Theory of Moral Sentiments* about the need for institutional solutions that suit the problems that arise rather than institutions serving some fixed formula or dogma (Ramesh et al. 2010). There are a number of features of public services provision that distinguish them from private business and have implications for aspects of governance. As Hartley and Skelcher (2008) point out, (1) public service organizations 'do not choose their market' but must provide services to anyone who meets the eligibility criteria; (2) public services are 'under the formal control of politicians' who are elected representatives of wider constituencies and, (3) public service organizations also 'operate in arenas of 'market failure' where the market is thought to be unlikely to operate effectively.' Therefore, public services have been traditionally provided directly by governments.

Since the early 1980s, the public sector in Western democracies has been under constant pressure to improve its performance in pursuit of greater economy, efficiency and effectiveness, and to revive the shrinking trust in public institutions. Internationally, a wave of government reforms, usually associated with the NPM concept, can also be observed from the 1980s onwards (Kettl 2000). NPM reforms have been driven by two main ideas: (1) the introduction of market approaches to public sector management, and (2) a shift from activity control to results control (Hood 1995, Pollitt and Summa 1997, Budding 2008).

Along with managerial reforms, there have also been institutional reforms aimed at reducing the role of the central government in economic fields (Argento et al. 2010). Based on the NPM ideology, one of the most remarkable public sector reform initiatives of the last decade in EU countries has been the externalization of public services through corporatisation, contracting out, public-private partnerships and privatisation (Doherty and Horne 2002, Torres and Pina 2002, Dexia Crediop 2004, Reichard 2007, Grossi and Reichard 2008). Stimulus for the reform programme stems from the belief, strongly advocated by public choice theory, that governments are too large, inefficient, ineffective and unresponsive to change (Pollitt and Summa 1997). Since the goal of externalization is the improvement of performance in public services provision, i.e.

higher service quality and lower costs, it becomes critically important for each partner to define which type of partnership he will be involved in (Broadbent et al. 2003, Vaillancourt Rosenau 2000). Grossi (2007) points out that when externalizing public services, it becomes necessary to link the financial aspects of externalization choices with a pragmatic vision of their consequences for both users and politicians. The decision to externalize public services cannot be a unilateral decision made by politicians; user expectations and public service needs (i.e. security, quality and quantity) must be considered in the decision-making process (ibid.). Therefore, externalization can be viewed as a solution to reconciling the different interests of internal and external stakeholders.

A view currently emerging in the literature about privatisation and deregulation experiences of the last two decades outlines the importance of context and contingencies when deciding on private sector involvement in public services delivery (Ramesh et al. 2010). So Araral (2008), building on the work of Ostrom (2005), points out three main contextual factors that become important in decision-making between private or public production: (1) characteristics of the service, (2) characteristics of the actors, and (3) the institutional context. In terms of service characteristics, the axiom is that if the service is not easy to specify and monitor (information problem), direct government provision would be more efficient and responsive to citizens needs. In regard to the characteristics of the actors, the interests (e.g. return targets), ideas and power of the key actors involved (e.g. service producers, investors) should be taken into account in order to minimize various risks (e.g. regulatory, political and commercial risks). The considerations related to the institutional context are based on aspects from the theory of incomplete contracts, transaction cost theory (Williamson 1999, 2000; Hart et al. 1997) and industrial organization theory (Bel et al. 2010), which argue that asset ownership and contractual arrangements matter for the outcomes of privatisation because as discussed earlier in subsection 1.1.2 contracts are incomplete, information is imperfect and transactions costs evident (Ramesh et al. 2010).

From the strategic perspective, local authorities as providers of public services have a number of options for reacting to external pressures and challenges. For long public services provision is not just a choice between two options – traditional direct public or fully private provision. Reichard (2007) argues that with regard to a particular public service, a local government can choose between the following options when facing external pressures:

1. Continue to produce the service with internal means according to traditional patterns of internal production (i.e. within the public sector with public employees and budget funds).
2. Modernise its structures and procedures and prepare its units for future challenges.
3. Contract-out or privatise in order to get rid of the obligation of providing the service and the related responsibilities.

4. Accept the challenges in the market and put its service under the regime of a competitive arrangement (i.e. compulsory competitive tendering).
5. Increase cooperation with partners from both the public and private sectors.

Moreover, Reichard pointedly depicts the main strategic options for public authorities in terms of institutional choices in the form of a triangle with hierarchy (H), market (M) and cooperation (C) in the corners as illustrated in Figure 8 (ibid.).

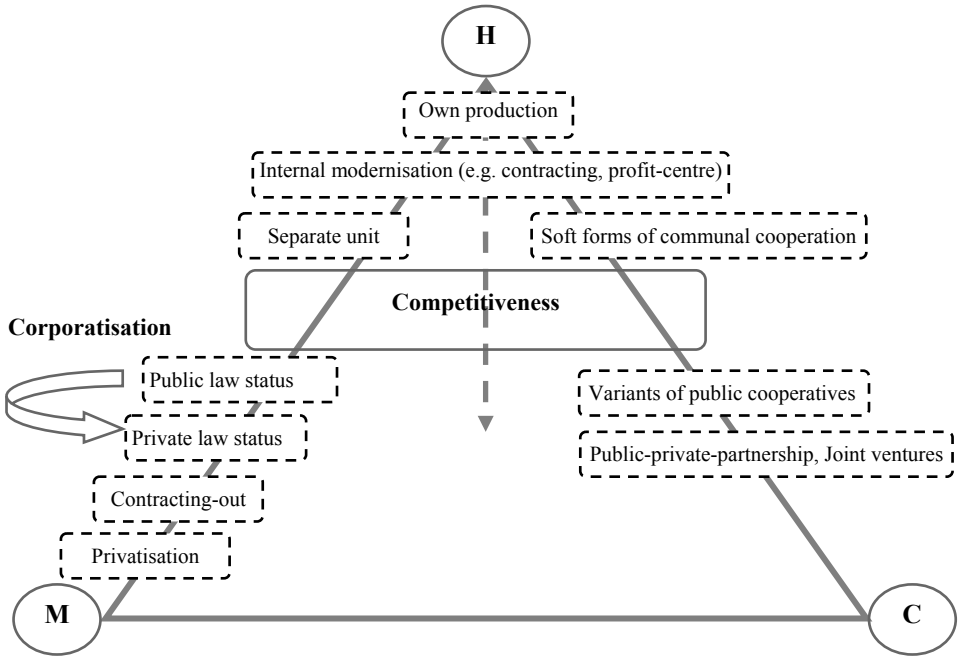

Figure 8. Institutional solutions in public services provision (source: Reichard 2007)

Figure 8 indicates the tendency where the direct production of public services by local governments and traditionally strong collaborative and corporatist relations between local authorities, have been replaced by more competitive patterns. Local public providers are in competition with private companies. This has happened in the local infrastructure service sectors with increased competition between public utilities and private for-profit providers. These are the sectors where processes, costs, outputs and qualities can easily be specified and measured. Typical cases for such public service sectors are waste disposal, street cleaning, office cleaning, building maintenance, water, energy or public transport (Reichard 2007). Cooperation and competition, as shown in Figure 8 are two highly interrelated modes of steering in the setting of governance-type structures (Oppen and Sack 2005, Reichard 2007).

However, Reichard (2007) argues that there is no single solution for public services provision and the different alternatives are interrelated. As pointed out by Araral (2008), the decision depends on the specific context of the local authority and on the nature of the public service. Yet it must be considered that sometimes it is possible to combine some of the solutions; for example, to co-operate with others and to intensify measures of 'marketisation' like the notion of 'co-opetition' (Nalebuff and Brandenburger 1996). All in all, for the purpose of the present dissertation, it is important to recognise that in light of externalisation there are different institutional options for governments providing public services. Moreover, it is argued that the modes of externalization, depending on particular conditions, do influence the multifaceted performance of public services provision. This raises a relevant question for the present dissertation to explore the perspectives of particular modes of externalisation (public, public-private and private) and how they influence the performance of public services provision. Relying on the model of institutional choice in Figure 8, the remainder of the present subchapter provides an insight into the major modes of externalization and seeks to explore the theoretical expectations of their influence on the performance of public services provision.

Corporatisation

Corporatisation is a central element in Figure 8, referring to the transformation of government agencies into government-owned private law companies in order to introduce corporate management techniques. Government-owned (or publicly owned) companies are independent legal entities, established by public bodies, pursuing revenue-producing commercial-type activities (Torres and Pina 2002). Yeung (2005) characterizes government-owned companies as a form of government in business – the government wholly or partially owns a particular organization that directly produces or provides goods and services to satisfy certain collective needs in a community. These companies irrespective of their organizational forms are expected to achieve economic and operational efficiency, and at the same time meet social or policy objectives and be accountable to the general public (Bozec et al. 2002). Figure 9 illustrates that governance of a publicly owned company is subject to influences from (and sometimes conflicts among) the state, market and civil society (Le and Buck 2011). All these influencers are very different by nature in terms of sources of power, values, rationales and norms, which necessitate seeking the right balance of diverse interests, the right balance between control and autonomy (Yeung 2005).

Corporatisation is seen as one option for improving the performance of public services provision by (1) providing managerial autonomy from political interference, and (2) by making monitoring the company's performance easier than it was when the company was hidden inside a government department (Xu et al. 2005, Vagliasindi 2008). Collin and Hansson (1991) argue that the corporate form can fulfil one of the three functions for governments:

1. *Rationalization*, when the capitalist corporate form is considered to help management focus on costs, but the organization is still considered a public sector operation.
2. *Competitiveness*, when the corporate form makes it possible to avoid certain features of public sector organizations that are considered to hamper an organizations capacity to become competitive on a capitalist market.
3. *Privatisation*, when the corporate form prepares the company for private, capitalist owners, this makes it easier to value the company and easier to transfer the ownership.

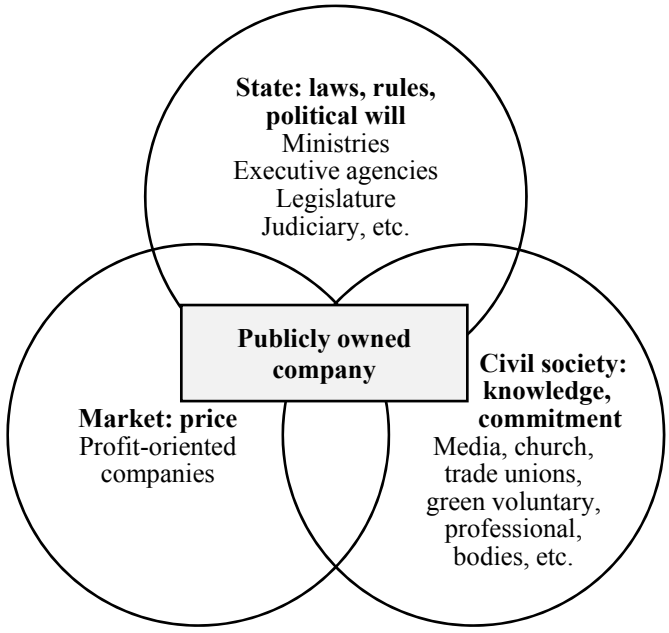

Figure 9. Governance of a publicly owned company: influences from the state, market and civil society (source: adapted from Yeung 2005)

Public-private partnership

Located on the hierarchy-cooperation axis in Figure 8, the term public-private partnership (PPP) has a diversity of meanings in the literature (Linder 1999, Bovaird 2004, Brinkerhoff and Brinkerhoff 2011). In the broader sense, PPPs are defined as 'working arrangements based on mutual commitment (over and above that implied in any contract) between a public sector organization with any other organization outside the public sector' (Bovaird 2004). Brinkerhoff and Brinkerhoff (2011) point out that such a conceptualization of PPPs highlights the importance of 'shared dedication to achieve some kind of joint outcome, and of going 'above and beyond' the principal-agent dynamic of a

contractual relationship'. The partners bring competence to the working arrangement, thereby creating synergy (ibid.).

In the literature a number of PPP classifications can be found based on their purpose and various dimensions (Hodge and Greve 2007). The present dissertation focuses on a specific form of PPP – long-term infrastructure PPPs, also referred to as institutionalized PPPs by the European Commission (Greve and Hodge 2010). The institutionalized PPP is argued to be the most developed form of PPP because it involves the creation of a separate legal entity, such as a company, with mixed public-private ownership (Grossi and Rocher 2005). Institutionalized PPPs mainly concern lucrative sectors (Greve 2003, Brinkerhoff and Brinkerhoff 2011) like water, energy, highways, ports and so on, where they bring together governments and the private sector to finance, construct and operate infrastructure facilities.

The rationale for government partnerships with the for-profit private sector encompasses both instrumental and normative aims (Brinkerhoff and Brinkerhoff 2011). From an instrumental perspective, partnering with the private sector can afford the government access to technical expertise and established networks for complementary resource sharing. Engaging capital from private partners is a means for governments to circumvent financial straits (Dexia Crediop 2004). For infrastructure PPPs that access private financing, public-private risk sharing is one of the drivers both as a means of leveraging investment in public goods and of providing performance incentives. From an incentives perspective, PPPs may have an explicit objective of incorporating 'business-like' practices and thinking, including bottom-line enforcement mechanisms and competition. A major reason why governments choose to enter into institutional public-private partnerships is the expectation of higher productivity because mixed companies are expected to operate at lower costs than fully publicly owned companies (Marra 2006). Yet, retaining some ownership allows the public authority to gather more information about the actual costs of the public service company (i.e. diminished asymmetry of information) with more control over service management (Schmidt 1996).

Nevertheless, in practice many PPPs do not achieve the planned public benefits and may yield unintended consequences either due to poor implementation (e.g. due to problems with government regulations) or biased incentives (Brinkerhoff and Brinkerhoff 2011). Consequently, a corporation with mixed public-private ownership is a potential conflict point between the partners (Grossi 2007). Conflict may arise when social value (i.e. satisfaction of the community) is not adequately reconciled with economic value, which should not necessarily be ascribed solely to the pursuit of profits. Still, this does not mean that public and private interests are un-reconcilable; however, the creation of a system of governance and adequate planning becomes critical to accomplish each partner's objectives and to build rapport among partners (ibid.). All in all, from the theoretical perspective, institutionalized PPPs are about attempting to achieve performance that may not be obtained by

government or private companies acting separately. As yet, the results of mixed public-private ownership on company performance are not clear (Bös 1991). In public services, mixed ownership might be an optimal combination mitigating the disadvantages of pure public or private ownership (Schmitz 2000), but it may also embody the worst qualities of both worlds (Vining and Boardman 2008). Vining and Boardman (2008) argue that public and private partners have conflicting goals (Trailer et al. 2004), which is likely to raise transaction costs and lead to negative externalities or reductions in service quality. Moreover, due to conflicting goals, the PPPs can result in 'high contract bargaining costs, opportunistic behaviour by one or both sides, failure to achieve goals, and partnership dissolution' (ibid.). Consequently, for the present research, this leads us to an important question of what governance mechanisms should be set up and how in order to produce an effective institutionalized PPP without performance eroding conflicts between the partners.

Privatisation

The term 'privatisation' depicts the institutional choice located most drastically away from the traditional direct provision of public services by governments on the hierarchy-market axis in Figure 8. The earliest written record of the word 'privatisation' in English occurred in 1959 (The Oxford English…1989, Bel 2006) long before the current NPM movement emerged. In a broader sense, the term 'privatisation' is defined to 'alter the status of (a business or industry) from public to private control or ownership' (Webster's Third New…1961). In the same vein, a remarkable privatisation theorist, Savas (1987), defines privatisation as 'the act of reducing the role of government, or increasing the role of the private sector, in an activity or in the ownership of assets.' Domberger and Jensen (1997) provide a narrower definition of privatisation, considered also in this dissertation, when they argue that privatisation refers to the transfer of the ownership of physical assets from public to private ownership. In the context of the various definitions, Grimsey and Lewis (2004) emphasize that the term 'privatisation' is often used synonymously with 'contracting out' in the literature, especially in the US; however, contracting out does not generally involve the sale of publicly owned assets (Domberger and Jensen 1997).

However, the arguments for privatisation have pointed out improved services, smaller costs, greater expertise and managerial flexibility and lower inefficiencies (Bennet and Johnson 1981, Savas 1982, Donahue 1989, Kettl 1993, Goldsmith 1997). Perhaps one of the most debated issues in the context of privatisation is whether the change in ownership would lead to higher efficiency and service quality, or improvements stem from the pressure of competition. Savas (2000) advocates that 'the primary goal of any privatisation effort is, or should be, to introduce competition and market forces in the delivery of public services.' However, Vickers and Yarrow (1988) find that how much competition there will be after privatisation depends on the structure of the

industry and government policies. In the same vein, Domberger and Jensen (1997) stress that because privatised companies may or may not operate in a competitive market, 'privatisation is essentially independent from the promotion of competition.' Reichard (2007) suggests that efficiency improvement is rather dependent on the functioning of competitive regimes than on the transfer of ownership to private investors. Van Slyke (2003) concludes that privatisation success appears to depend on the specific type of services, the existence of developed and competitive markets, the specificity of the contract and the ability to enforce accountability and outcomes.

Forster and Mouly (2006) notice that privatisation can be synonymous with the movement away from the provision of goods and services for the public to the provision of goods and services for profit. In the same context, Hart, Shleifer and Vishny (1997) argue that private provision provides more incentives to improve efficiency, but that it may happen at the expense of service quality. Warner (2010), in opposition to the pro-privatisation theorists (Savas 1987), claims that privatisation is not a reduction in the role of the state, but rather a shift in its role (Schamis 2002) toward using new governance tools (e.g. contracts, price and quality regulations) to engage markets more effectively in public services delivery. Thus, privatisation does not mean that governments can externalize public services and walk away; instead governments must remain actively engaged in public services provision (Warner 2010). Otherwise, downsizing in government workforces can lead to a bundle of 'hollow state' problems as referred to by Milward (1994) and Milward and Provan (2000, 2003). Moreover, Morphet (2008) points out some general problems related to the introduction of privatised services, which stem from specific causes. The first is where a poor service is privatised without any other action taken to improve it. The second type of failure is where the local authority does not have a clear understanding of the 'client' function. All contracts need standards for performance measurement and acceptable means for dealing with contract failure (ibid.). Therefore, it can be argued that privatisation can enhance the performance of public services provision only if some necessary prerequisites are met.

In summary, local governments have a variety of new institutional choices, how to arrange public services provision. One tendency is that instead of the direct provision of public services by the government itself, the services are produced and delivered by specialized companies with public, private or mixed public-private ownership. All the new institutional externalization choices embody promises of improved performance regarding efficiency and effectiveness in public services provision; however, the effects largely depend on the other governance arrangements applied (e.g. contracts) and the particular industry context (e.g. level of competition). For the purpose of the present research, this discussion leads to an important question of what governance mechanisms should be applied by governments and how in order to result in effective externalization through publicly, privately and jointly owned mixed public-private companies.

1.2.2. Changed institutional roles of local governments in public services provision

As apparent from the previous discussion, externalization in public services leads to changed roles for governments. Obviously government participation in public services provision does not imply that the government itself must necessarily carry out the production of these goods or services. As Atkinson and Stiglitz (1980) explain:

> "We need to make an important distinction, between public production and public provision. Both are often confused, though logically and in practice they are distinct. The government provides for national defence, yet much of the production of the goods purchased for national defence is within the private sector".

In other words, the provision of public services can be viewed as the specific legal responsibility of governments, while the production of these services as a technical and economic activity may be carried out by public or private institutions. The same idea represents the core of the normative 'Ensuring State' (*Gewährleistungsstaat*) concept that emerged in German-speaking countries (Reichard 2007). According to this concept, the local government acts primarily as an ensuring (guaranteeing) actor of public services (Mastronardi and Schedler 2004, Schuppert 2000). In this role local government is seen to act as follows (Reichard 2007):

- Local government decides on certain tasks and services (granting a service level);
- Local government invites tenders from public or private organizations with regard to the production and delivery of a particular service;
- The allocation of responsibilities – granting responsibility remains with the government, production and delivery responsibility can be allocated to a public or a private organization;
- The local government monitors and controls the whole process of service delivery.

The general logic is that a particular public service should be produced and delivered within an appropriate institutional arrangement; that is, by a certain public sector organization or by a private company. However, in order to set this normative Ensuring State concept in practice, it is considered necessary to restructure the entire political-administrative setting of the municipalities (ibid.). A major implication of applying the Ensuring State concept would be the introduction of the contractor-provider split, distinguishing the contractor's (local authority) and the provider's (separated internal unit or external provider) roles in public services delivery.

Local government's role as contractor

When a local government decides to give up the direct production and delivery of public services, the service provision process becomes a network structure, where different types of autonomous counterparts are tied to the local government (1) by a contractual or (2) by both a contractual and an ownership relationship (Grossi and Mussari 2008). In the first case, the external provision entity enjoys a good level of freedom from the local government and could potentially provide misleading information on the activities carried out (Argento and Grossi 2010). However, local government must obtain reliable information to exercise effective control over the service provider and assess the respective costs (Erridge 2003), which addresses the need to define suitable corporate governance rules (Neale and Anderson 2000). Contracts are suggested as proper legal instruments for locking in rules and achieving coherence and predictability in the governance relationships. In the public sector context, Lane (1999) points out that contracting involves a number of important properties that are all viewed as performance enhancing in public services: voluntary, goal-oriented, incentive based, concrete and specific and of a limited time horizon. As potential advantages of using contracts, even if direct monitoring costs can be relatively high (Jensen 1993), it makes it possible to stipulate clear conditions about what has been agreed to, what is to be delivered, who is to pay and what additional obligations have been consented to (Lane 1999).

However, the contractor-provider split, as depicted in Figure 10, illustrates the separation of the different roles – ensuring and providing – in public services. The contractor (e.g. local government) carries the guarantor responsibility and the providing entities (e.g. public services company) are responsible for production and delivery of the services (Mastronardi and Schedler 2004, Schuppert 2000). The relationship between the contractor (guarantor) and the service provider is flexible and based on contracts, which stipulate the major requirements for the providing entity. As noted earlier, the role of local government in the contractor-provider relationship is rather seen as the ensuring and guaranteeing institution of public services not as the major producer. In this context the local government is left with the responsibility of (1) defining strategies and priorities, and (2) coordinating and monitoring the delivery of services in an efficient and effective manner in accordance with the service contract (Grossi and Reichard 2008, Grossi and Mussari 2008).

Reichard (2007) argues that the semi-autonomous public services provider could be governed through a holding core, composed of a coordinating administrative department and political-administrative establishment under the local government. The holding core has the function of coordinating and controlling its own service providing units and furthermore to transact with other (external private) partners.

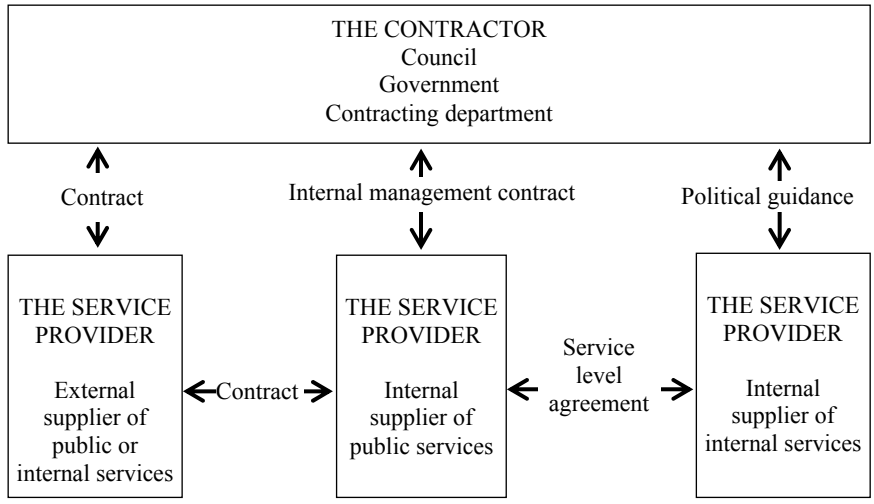

Figure 10. Contractor-provider split in public services provision (source: adapted from Reichard 2007)[10]

Obviously, the separation of 'contractor' from 'provider' requires new skill and orientation from the local government because consequently it has to 'steer' the provider and organize contracting activities. Grossi and Reichard (2008) suggest that the role of guarantor requires suitable planning mechanisms and coordination concepts. A local authority responsible for granting certain public services is required to have a clear vision and understanding of the role and tasks of its various service producing units. It has to determine the future position of the service providers in the market and set clear and realistic performance targets for them (ibid.). Moreover, every provision unit must be aware of the expectations (i.e. goals) of its contractor (Reichard 2007), which implies a clear communication of planned outputs and impacts elevating the themes of accountability and reporting to a position of critical importance (Neale and Anderson 2000, Ryan and Ng 2000, Chan 2003, Ezzamel at al. 2005). Consequently, as indicated in the literature (De Bruijn 2002, Argento and Grossi 2010), an effective performance measurement system is necessary in local governments to provoke perverse effects of information disclosure in contractual relationships with public services companies.

[10] Originally Reichard (2007) marks it as 'purchaser-provider split' to distinguish between the purchaser side (contactor/guarantor responsibilities) and the provider side (production and delivery of public services) in a municipal setting.

Dual roles of local government in a public services company

When a local government remains tied to the public services company after the externalization both by a contractual relationship and a (partial or full) ownership relationship, the problem of a conflict of interest arises for the local government due to its dual role as owner and contractor (Neale and Anderson 2000). In a publicly owned company responsible for public services provision the local government has to fulfil the role of owner (shareholder). As the owner of the company, the local government exercises its property rights and is committed to the maintenance and growth of the value of assets. Moreover, even if the publicly owned company does not have profit as its main objective, as owner the local government is interested in a return on capital invested (Grossi and Reichard 2008). Thus, the performance interests of the local government as the owner of a public services company are similar to that of an investor in a private company, while for the local government as contractor (guarantor) financial performance (e.g. corporate profit) should be relatively less important than the achievement of social objectives (non-financial performance).

Hence, a publicly owned company is faced with multiple conflicting objectives, such as balancing financial (economic) with non-financial (social) objectives (Araral 2008). As public owner, the local government's aim is profit; it tries to preserve the corporation. Instead, as service guarantor (contractor), the local government aims to ensure the supply of services at reasonable prices and, is less interested in the realization of profits (ibid.). Of importance to the present research is the recognition that these two roles of the local government embody a conflict of interest, which influences financial and non-financial performance in public services. Shirley and Nellis (1991) consider this as a fundamental problem in public services, when a government acts at the same time both as (local) regulator and shareholder of a publicly owned company. Moreover, McQuaid (2010) argues that situations where the local government and its subsidiary are required to be both actors within a purchaser-provider contract and strategic partners leads to a confusion of roles and incentives. Argento et al. (2010) argue that such a conflict of interest applies not only to the companies that are fully owned by local governments, but also to the mixed public-private ownership companies, including those listed on the stock exchange. The authors emphasize that the problem of conflicts of interest is especially strong in water, waste and transportation sectors, when national authorities are missing and the local governments are the only real regulators (ibid.). Moreover, due to the tense relationship between the dual roles of local government, it is suggested that a clear distinction be made between the two roles when designing a corporate governance system (Grossi and Reichard 2008, OECD 2011a) and developing a corporate (ownership) strategy for publicly owned companies (Bernier and Simard 2007, OECD 2011c). To influence both the financial and non-financial performance of public services companies, local governments are required to make a combined use of both corporate governance mechanisms

(e.g. boards, statute, shareholders' agreement) and performance management tools (e.g. performance indicators, budgets, annual and interim reports) for steering and controlling corporate performance (Argento and Grossi 2010).

In summary, resulting from the externalization of public services, a major change in the role of local government is to act as a contractor (service guarantor) that plans and monitors public services provision using specialised companies. This change in the role of local government introduces a set of specific governance mechanisms in the public governance system – contracts – necessary to direct and control performance in public services provision. Thus, depending on the ownership structure of the public service provider, it can be tied to the local government either by a contractual or by both a contractual and an ownership relationship as summarized in Figure 11.

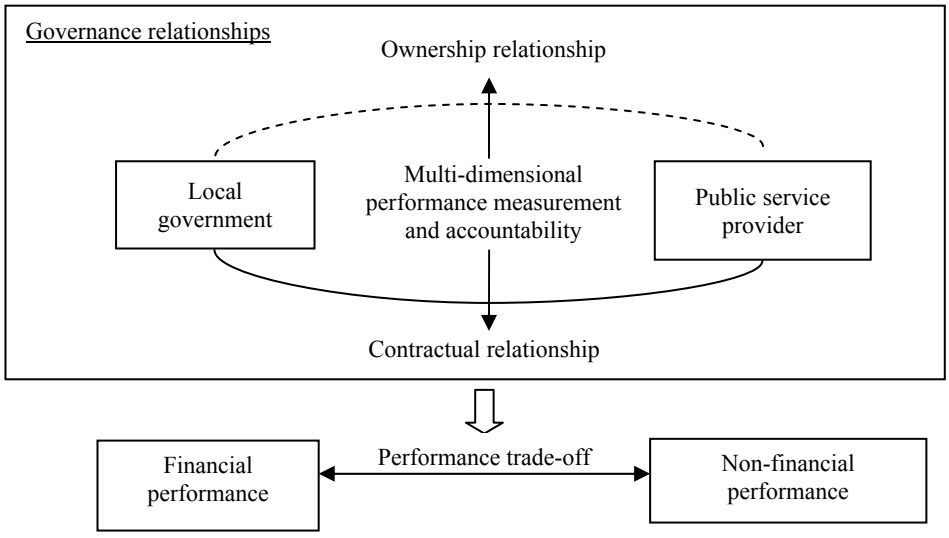

Figure 11. Conceptual framework of the relationship between governance and performance in public services provision (source: adapted from Grossi and Mussari 2008)

According to Figure 11, both the ownership and contractual relationships need to rely on a multi-dimensional performance measurement and accountability in order to make it possible for the local government to control and direct the balance between financial and non-financial performance in public services provision. However, a fundamental conflict of interest influencing corporate performance relates to the dual role of local governments as contractor and owner of the company that provides the public services. Consequently, setting up mechanisms to solve the conflicts stemming from the contradictory financial and non-financial interests of local government in a public services company, is a major challenge in public sector corporate governance. For the purpose of the present dissertation, this discussion leads to important questions about what the

roles of local government and provider are in this governance relationship and what aspects are regulated in the contracts signed between the parties involved. Moreover, in the case of the public provision of public services, how do local governments overcome the conflict related to their dual roles in public services companies and what is its influence on corporate performance?

1.2.3. Relationships between governance and performance in public services: evidence from previous studies

The discussion in the present dissertation thus far, exploring the theoretical works of researchers working in the field of governance, finds support for the supposition that governance can influence corporate performance. The aim of this subchapter is to draw together the main empirical findings from previous studies of the relationship between governance and performance in the field of public services provision.

Several research streams can be identified in the literature among the empirical research focusing on the governance-performance relationship in public services. First, a vast amount of empirical research on the governance-performance relationship focuses on the influence of ownership on the performance of public service entities with respect to efficiency and productivity. Based on the applied research approach, these studies can be classified into two groups (Villalonga 2000): quantitative cross-sectional studies of ownership type effects, and quantitative longitudinal studies of privatisation effects. However, most of the empirical research of efficiency under private *vs*. public ownership have been in the form of cross-sectional comparisons of both types of companies in sectors where they coexist (Cuervo and Villalonga 2000, Letza 2004, Bel and Warner 2008). Comprehensive literature reviews by Shirley and Walsh (2000), Megginson and Netter (2001), Hill and Lynn (2005) indicate that private companies tend to outperform – *ceteris paribus* – publicly owned companies in terms of efficiency. Similarly, the studies by Boardman and Vining (1989) and Vining and Boardman (1992) provide evidence that publicly owned companies are less efficient than privately owned companies. Wilson (2000) reveals that the greater economic efficiency of private compared to public suppliers of most public services is mainly the result of three factors: (1) lower labour costs, (2) more effective management and (3) stronger competition. Boycko et al. (1996) find that in publicly owned companies excess employment is a potential source of inefficiency, while politicians have an incentive to intervene in the operation of such a company for the benefit of its employees, since they are more likely to support incumbent parties that protect the company. Moreover, Vining and Boardman (2008) find that private companies in public services provision 'have a greater incentive to be ruthless because they keep the fiscal residual.'

A prominent meta-review of 153 cross-sectional studies by Villalonga (2000) also indicates that private companies are mostly more efficient than publicly owned ones (i.e. there are 104 studies in favour, 14 against and 35 neutral). However, these results are suggestive, but not conclusive. As argued by Letza (2004), such results do not explicitly support the view that privately owned companies are more efficient than public organizations. Moreover, Cuervo and Villalonga (2000) show that a similar inference can be made by looking at privatisation case studies, but also longitudinal studies of privatisation effects on efficiency in both developed (D'Souza and Megginson 1999, Cuervo and Villalonga 2000) and Eastern European countries (Cuervo and Villalonga 2000, Djankov and Murrell 2002, Jones and Mygind 2002, Jones et al. 2003).

In the context of PPP, a fundamental study that has investigated relationships between mixed public-private ownership and efficiency was carried out by Boardman and Vining (1989). They found that mixed companies perform at the same or slightly higher operational efficiency than publicly owned companies, while private companies are the most efficient (ibid.). Moreover, a further study by the same authors, Vining and Boardman (2008), referring to a number of empirical studies, indicates that companies with mixed public-private ownership often achieve neither 'high profitability nor worthwhile social goals' due to the conflicting goals of the public and private partner. Also, the studies show that the conflicting goals in PPP (Trailer et al. 2004) are 'likely to raise transaction costs and lead to negative externalities or reductions in quality' (Vining and Boardman 2008).

In the literature, the second distinguishable stream of research in the field of the governance-performance relationship in public services focuses on the influence of contracting (-out) and related incentives on corporate performance. The main findings from the USA, the EU and Australia can be concluded as follows (Domberger and Jensen 1997, Hill and Lynn 2005, Reichard 2007, Skelcher 2008, and Brown et al. 2000): (1) performance standards and performance incentives that are implicitly or explicitly stipulated in contracts influence the behaviour of contractors and service providers. Their response to these incentives appears in selecting clients; that is, 'cream-skimming; in the misrepresentation of information to the principal; in reallocating resources across inputs, and in enhancing productivity toward the measured goals' (Hill and Lynn 2005); (2) cost reduction and efficiency improvement as a result of contracting(-out) depend on contingencies, such as the presence of a formal contract review process, the size of the public service provider, market conditions, and penalty provisions included in the contract (ibid.). Moreover, case studies by Brown et al. (2000) indicate that beside efficiency improvements, enhancement in client orientation, transparency and accountability can be achieved by 'in-house' commercialization when introducing the contractor-provider split in public services provision; therefore, without using 'the more extreme alternative of privatisation.'

However, there is evidence from empirical studies, which indicates that externalization and the ownership structure of the public service provider are not significant influencers of efficiency *per se* (Aulich 2011). The results of these studies seem to indicate that the performance of the private provision of public services depends to a large degree on the nature of the service (Ernst 1994, Hodge 2000, Cannadi and Dollery 2005) and competition in the market (Domberger et al. 1986, Domberger and Jensen 1997, Hodge 2000, Vining and Boardman 2008). On the example of waste collection services, Domberger et al. (1986) find that under competitive contracting there is no difference in costs between public and private provision, but in municipalities where there is no competitive contracting, costs of public provision are relatively higher. Similarly, Szymanski and Wilkins (1993), Hodge (2000), Gomez-Lobo and Szymanski (2001) all indicate that competitive pressures in/for public services provision keeps costs lower and eliminates the X-inefficiency (Niskanen 1971) in public services. Moreover, Bel and Warner (2008) find that private provision has failed to deliver consistent cost savings in public services sectors with weak competition (e.g. waste collection) indicating also that potential 'cost savings crucially depend on the nature of public service markets.'

Opponents of the externalization in public services argue that relatively higher efficiency, if any, can be achieved at the expense of the quality of the public services (Domberger and Jensen 1997). An early empirical study by Walsh (1991) of English local governments finds, vice versa, that the externalization of particular local public services through contracting out and privatisation has led to the introduction of explicit inspection processes and a clear emphasis on service quality standards. In the same vein, Domberger et al. (1995) and Domberger and Jensen (1997) indicate that due to an increase in competition resulting from externalization, the prices of various local public services, such as cleaning and waste disposal, will be lower, while the service quality is maintained or even enhanced. Nevertheless, Hart et al. (1997), referring to a different type of public service – prison services – find that externalization and private management are likely to be less successful in public services with significant non-contractable elements of quality. Similarly, Hodge (1998) and Perrone and Pratt (2003) indicate that the results of externalization and private provision in complex social public services, such as incarceration, are regarded 'as ambiguous at best' (Lember 2004).

The third clearly distinguishable research stream in the literature regarding the corporate governance-performance relationship is concerned with the influence of the characteristics of the board on corporate performance. In the public sector context in particular, a research topic that has been increasingly investigated in recent times relates to the presence of politicians on corporate boards. Menozzi et al. (2010) analyze the influence of board composition on corporate performance based on a sample of 114 Italian local utility companies. The authors find that politically connected directors, representing the state or the local government, exert a positive and significant effect on employment,

while they impact negatively on the financial performance of the companies (ibid.). Moreover, Boubakri et al. (2008) indicate, based on a sample of 245 privatised companies observed in 41 countries between the years 1980–2002, that there is a negative relationship between the financial performance and political connections of corporate management. Similarly, Fan et al. (2007), considering 790 new partially privatised companies in China, find that those with politically connected CEOs in charge underperform their peers without political connections. Alternatively, the empirical studies exploring how a manager's political background can influence the corporate performance of private companies, find a positive significant relationship between political connections and financial performance. Faccio (2006), relying on a large sample of 20,000 companies in 47 countries, indicates that corporate value increases when the top manager of a private company (e.g. CEO, board members) enters politics. In the same vein, findings from studies on major US (Goldman et al. 2009) and German companies (Niessen and Ruenzi 2009) indicate that political connections of managers increase corporate value and lead to better financial and stock price performance. Nevertheless, Bertrand et al. (2004), based on a sample of French companies, find that the companies with politically connected CEOs were slightly less profitable than companies managed by CEOs with a purely private sector background (Menozzi et al. 2010).

Finally, in public management literature, empirical studies with a focus on performance management issues can be found exploring the influence of performance measurement and disclosure practices on the performance of public sector organizations. The prominent authors in the performance management field, Bouckaert and Halligan (2008) and Van Dooren et al. (2010), argue that generally there is little empirical evidence on whether performance management indeed influences performance in public sector organizations. Still, there have been some studies that provide insight into the relationship between performance measurement initiatives and performance in the public sector. A meta-analysis by Rodgers and Hunter (1992) on MBO practices in public sector organizations indicates that all considered studies report productivity or other performance gains after the introduction of clear goals and feedback regarding performance. Moreover, on drawing together results from other empirical studies on goal clarity and measurability in public sectors (Lan and Rainey 1992, Hendrick 2003, Chun and Rainey 2005, Boyne and Chen 2007), it appears that clear goals are positively related to organizational performance – precise targets are likely to lead to higher achievement levels in public services provision by central and local government agencies.

In the Estonian context, there have been a number of empirical studies conducted in the domains of public administration (e.g. Randma 2001, Drechsler 2004, Tonnisson and Wilson 2007, Lagerspetz and Rikmann 2009, Palidauskaite et al. 2010, Sarapuu 2011, Randma-Liiv et al. 2011) and economics (e.g. Jones and Mygind 1999, Jones et al. 2005, Rozeik 2008, Haldma et al. 2008, Haldma and Lääts 2011, Sepp and Eerma 2011), that have addressed

specific aspects of public governance and management (see also page 9); however, most of the empirical research does not provide evidence about the impact of governance arrangements on the financial and non-financial results of public services provision. Still, in the context of a state-owned postal company, Sepp and Eerma (2011) indicate that opening the postal market for competition entailed the motivation for efficiency improvements, the reduction of costs and offering novel services. Randma-Liiv et al. (2011), on finding the diminishing financial autonomy of government agencies however, note that its effects on the performance of the agencies are still unclear. Moreover, there can be found several studies conducted in the domain of organisational management that provide evidence of the relationship between specific management aspects and the performance of general educational schools in Estonia. So Irs and Türk (2012) and Türk et al. (2011) indicate that higher monetary incentives are likely to result in greater motivation among teachers and improvements in their work performance. Aidla and Vadi (2008) show that school administration attitudes about school performance criteria have an effect on pupils' national examination results, but these also depend on school size and location. However, none of the abovementioned studies explore how Estonian local governments set up and use both the corporate and regulatory governance mechanisms in public services provision, and how the different governance patterns determine financial and non-financial performance in public services.

In summary, the present literature overview of empirical evidence on governance-performance relationships reveals the multi-dimensional nature of this research topic, and consequently, it provides various results. The empirical studies exploring the relationship between governance and performance largely test the links between particular easily measurable 'hard' governance attributes (e.g. ownership) and organizational performance (e.g. efficiency) using quantitative research methods. Due to the multifarious nature of both variables – governance and performance – the studies included in the present overview also control for connections between various governance attributes and performance dimensions. In the public services context, a central question in the given studies is whether externalization and private sector involvement in public services provision makes a difference in the performance of public services provision. Obviously, the most commonly used performance dimension in the empirical studies is efficiency (or productivity), while the ownership structure (public, private and mixed public-private) of the public service provider constitutes the governance variable. There are significantly less studies controlling for the externalization effects on other, sometimes not so easily measurable performance dimensions of public services, such as service quality. However, the results of the empirical studies indicate that private sector participation in the public services has generally improved the efficiency of services provision (as suggested by property rights and public choice theory); however, not always, and the results are contingent on the nature of the service and the presence of competition in the services sector (as suggested by transaction cost and

industrial organization theory). Moreover, the studies indicate that financial and non-financial performance in public services provision may depend on the features of contracts concluded between the service purchaser (contractor) and provider. Clearly stipulated performance targets, sanctions in the case of failures to deliver and a contract review process (as suggested by agency theory) are the contract features viewed as performance enhancing tools in public services governance. Finally, a distinct research issue closely associated with public services companies questions the influence of politicians (or political connections) on corporate performance. The results show that in the case of publicly owned companies or recently privatised companies with a politically active manager and board members, efficiency and financial performance will be lower than in companies run by a manager and board members with pure private sector backgrounds. Alternatively, in the case of private sector companies, the political background of the CEO and board members often enhances the financial performance of their companies. Thus, these empirical studies provide intriguing results, which make it possible to suggest that political representation in corporate governance bodies is not necessarily good or bad from the corporate performance point of view *per se.*

All in all, based on the empirical results of the studies explored it is possible to find support for different expectations about the influence of governance on corporate performance stemming from the corporate governance and performance management theories discussed in the previous subchapter of the present dissertation. Moreover, it appears that the results of externalization in public services are contingent and there does not exist a single performing governance solution across different public services companies. Therefore, in order to make propositions that contribute to the theory and with practical implications hereafter in this domain, it becomes necessary to have a deep insight into and consider the characteristics of particular public services. Consequently, the remainder of the present dissertation will focus on the governance-performance relationship in a specific public services sector – water services.

1.3. Governance and performance of water services provision

1.3.1. Specific characteristics of water services and their performance

Water services and water as a good have a number of specific characteristics that differentiate them from other public services and keep them on the (local) government agenda. The aim of this subchapter is to introduce the main characteristics of water services provision and discuss their peculiarities.

Water is essential for life. It is important for human health and well-being as well as for the environment and economic development. Bad water quality, especially water contamination can lead to disease and other health problems (Garcia et al. 2007). Therefore, the right to safe and clean drinking water and sanitation is recognised as a human right 'essential for the full enjoyment of life and all human rights' (United Nations 2010). From this point of view, water supply and sanitation can be viewed as a social issue; however, an alternative view is to consider water as a private economic good. Savenije (2002) points out a number of distinct characteristics that make water rather a specific economic good: (1) water is essential, (2) water is non-substitutable, (3) water is finite, (4) water is fugitive, (5) water is a system and, (6) water is bulky and not easily tradable. Moreover, Opschoor (2006) argues that water issues are multi-layered.

The concept of the water cycle, illustrated in Figure 12, is useful for explaining the different layers in water issues. First, ground or surface water needs to be collected from water resources (e.g. catchments, basins, etc.) and purified (Argento and Van Helden 2009). Water resources play a significant role in the functioning of ecosystems (Opschoor 2006). Secondly, drinking water is delivered to water users as a good. After consuming the water, wastewater from the users (e.g. households, companies) and rainwater are collected through the sewerage system and directed to wastewater treatment plants where they are treated (sanitation). Subsequently, water is discharged into surface water resources and so the cycle will repeat again.

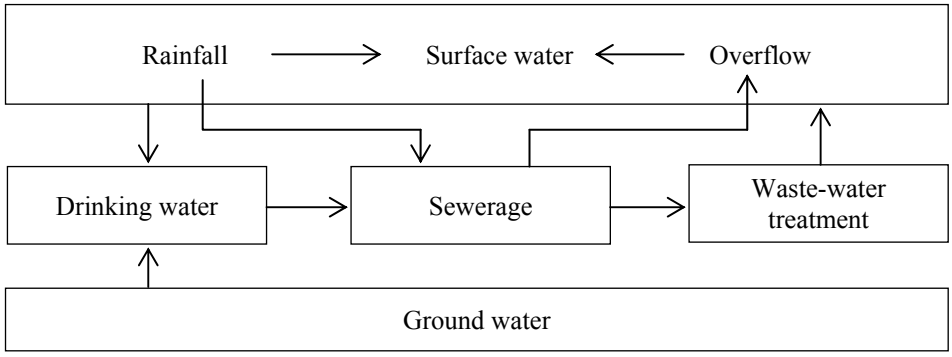

Figure 12. Water cycle (source: Argento and Van Helden 2009)

Between water as a good and water resources there exist water provision systems and mechanisms: the water services industry (Opschoor 2006). The EU Water Framework Directive (WFD) defines water services as follows (EC 2000):

> 'Water services means all services which provide, for households, public institutions or any economic activity: (a) extraction, impoundment, storage, treatment and distribution of surface water or groundwater, (b) wastewater collection and treatment facilities, which subsequently discharge into surface water.'

In this dissertation, the term 'water services' is used in line with the WFD definition and stands for the supply of drinking water and sanitation by authorized water companies. Schouten (2009) examines the ambiguity of water services and points out several important features:

1. Traditionally water services provision is conceived as a public good[11] (Mahdoo 2007); however, as Schouten (2009) argues, according to neo-classical economic theory, water services should be viewed as private goods – they exhibit excludability, high and low rivalry, and there are charges for users. Opschoor (2006) points out, that water as such is typically seen as an impure public good – 'a common pool resource that is non-excludable but rivals in consumption.'
2. Water services can be viewed as merit and economic goods. The provision of water services is argued to be a merit good[12] because of the public interest (economic and environmental externalities) at stake (Schwartz and Schouten 2007). At the same time, in a United Nations setting, Dublin Principle[13] Number 4 declares that 'water has an economic value in all its competing uses and should be recognised as an economic good.' Before that, the OECD (1987) had already stated that water is an economic good, emphasizing that economic resources have to be applied to the natural resource in order to make water available in the form, quality, location and time users need it. However, Schouten (2009) argues that looking at water as a merit and an economic good should not be considered contradictory but complementary.

Considering water as a (private) economic good does not mean automatically that water services provision is to be left to market forces (Opschoor 2006). Moreover, water services provision exhibits characteristics of natural monopoly and is therefore advocated not to be left to operate in a completely unregulated market (Hukka and Katko 2003, Quesada 2011). Consequently, because water services are a private good, a merit good and an economic good and also subject to market failure, water services are prominently on the political agenda of many (local) governments, essentially making it a 'political good' (Schwartz and Schouten 2007).

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[11] Samuelson (1954) defines a pure public good in terms of non-exclusion and non-rivalry in consumption.

[12] A merit good (Musgrave 1959) is a commodity that an individual or society should have on the basis of some concept of need, rather than ability and willingness to pay.

[13] The Dublin Statement on Water and Sustainable Development known as the Dublin Principles was adopted by the United Nations at the International Conference on Water and the Environment (ICWE) in Dublin in 1992.

Water services as a natural monopoly

Water services provision through water utilities[14] is often cited as an example of a natural monopoly (Depoorter 1999, Parker 1999, Hukka and Katko 2003, Quesada 2011). The core concept for defining a natural monopoly is the subadditivity of costs (Baumol 1977), which is realised if no combination of multiple firms can collectively produce industry output at a lower cost than a monopoly (Berg and Tschirhart 1988). Monopoly power often stems from economies of scale that imply that costs are a decreasing function of output (Posner 1969). Economies of scale are achieved when, over a certain period of time, the average cost of production per unit is reduced as a result of increasing the size of the operation.

Water utilities as natural monopolies entail a large initial investment that due to internal economies of scale leads to declining unit costs (Sharkey 1982), and therefore, it is more efficient to have one relatively large service provider than several smaller ones (Kim 1987, Kahn 1988). Relatively large production volumes as the basis for obtaining consistent economies of scale, is a key characteristic of a large water utility. In the case of small and medium-sized water utilities, mergers or aggregation agreements are advocated to obtain economies of scale (Sørensen 2007, Grossi 2008). However, in the literature studies on water services provision also find that at some level, without consensus on the number of users or the volume of water supplied, economies of scale disappear (Fraquelli and Giandrone 2003, Mizutani and Urakami 2001, Fraquelli and Moiso 2005). Yet, another advantage related to the growth in size of water utilities is that it can result in greater contractual power with stakeholders (e.g. financiers). Based on the resource-based view (Barney 1991), the size as well as type of capital are important features of financial resources, which can affect the implementation of corporate strategies. Greater capitalization allows for greater financial leverage with banks and consequently better financing conditions for investments (Grossi 2008). Consequently, in the natural monopoly context a question relevant for the present research arises concerning what influence does corporate size have on the performance of water companies (e.g. efficiency).

Closely related to idea of a natural monopoly are some other important features attributed to water utilities:

1. Water services provision is exceptionally capital intensive – capital costs including interest and depreciation often constitute 65–70% of all annual costs in water utilities (Hukka and Katko 2003). Hassein and Khalifa (2007) note the ratio of fixed assets to annual tariff revenue can be 10:1 in the water industry, compared to 3:1 in telecommunications and 4:1 in the electricity sector. As such, payback is lengthy and the cost of investment in the water

[14] The term 'water utility' refers to an organization that maintains the water infrastructure and provides water services using that infrastructure (e.g. a water company).

sector can only be recovered over many years (Idelovitch and Ringskog 1997).

2. The high degree of sunk costs in the form of fixed costs, which tend not to vary with the production volume, amounts to approximately 80% of operating expenses in water utilities (Hukka and Katko 2003, Kessides 2004).
3. Water and sewerage systems are intrinsically tied to geographical locations (Hall and Lobina 2007). This makes the systems subject to conditions determined by the external environment. Natural variables, such as location, the quality of water resources and geological formations influence technical solutions in water services production (Vinnari 2008).
4. Locational specificity of a water utility complicates common carriage (Seidenstat 2000), which is 'a system in which competing service producers use a common pipe line to convey the water/wastewater, and the owner of the network could take care of billing the customers' (Vinnari 2008).
5. In technical terms, water and sewerage systems are infrastructures that 'are physical assets arrayed in systems that provide essential public services' (Pietilä 2006). Pietilä (2006) argues that water and wastewater services are strongly path dependent, which means that structures should last tens of years or even up to a hundred years. Vinnari (2008) points out that considering the long lives and partly underground location of the water infrastructure assets (e.g. pipe network), it becomes complicated to estimate their actual maintenance, repair and reconstruction needs. Importantly, invisible deterioration of water infrastructure assets influences water prices.
6. Beside economies of scale, water utilities are also subject to economies of density, meaning that increasing the number of households connected to given pipe network, leads to declining unit costs (Renzetti and Dupont 2004).

From the water user's (stakeholder) perspective, one 'real' difference between a natural monopoly and a competitive market is that under monopoly conditions there is an absence of alternatives regarding water services providers. Considering the importance of water services for the functioning of society and that water utilities are natural monopolies, there is usually some public sector intervention advocated in water services provision (De Miguel and Mulas 2007). The central economic concern related to water services provision is that due to imperfect competition, the monopoly situation leads to reduced output, relatively higher prices and causes wealth transfers from water users to providers (Vinnari 2006). At the higher price at which the monopolist tries to maximize profits, a group of potential customers will be excluded, as they will not be able to afford the product (Depoorter 1999). Therefore, for the purpose of the present research, an important question is raised concerning how to control and direct monopoly water companies for efficient and effective water services provision? However, as discussed in subchapter 1.2, public sector intervention does not

mean that public authorities should necessarily carry out the production and delivery of public services such as water by themselves because there are a number of other institutional options for local governments to influence outcomes in public services. The institutional water services provision options will be discussed further in the present subchapter.

Performance in water services provision

The essentiality of water and the specificity of water utilities refer to the multidimensional nature of performance in water services (Argento and Grossi 2010). Pietilä (2006) identifies three primary stakeholder groups with different performance interests in water services: (1) water users, (2) water service providers and (3) political and administrative institutions. As illustrated in Figure 13, all these major stakeholder groups – consumers, operators and the establishment – being in pursuit of their own interests, interact in the environment that influences their activities and behaviour (ibid.).

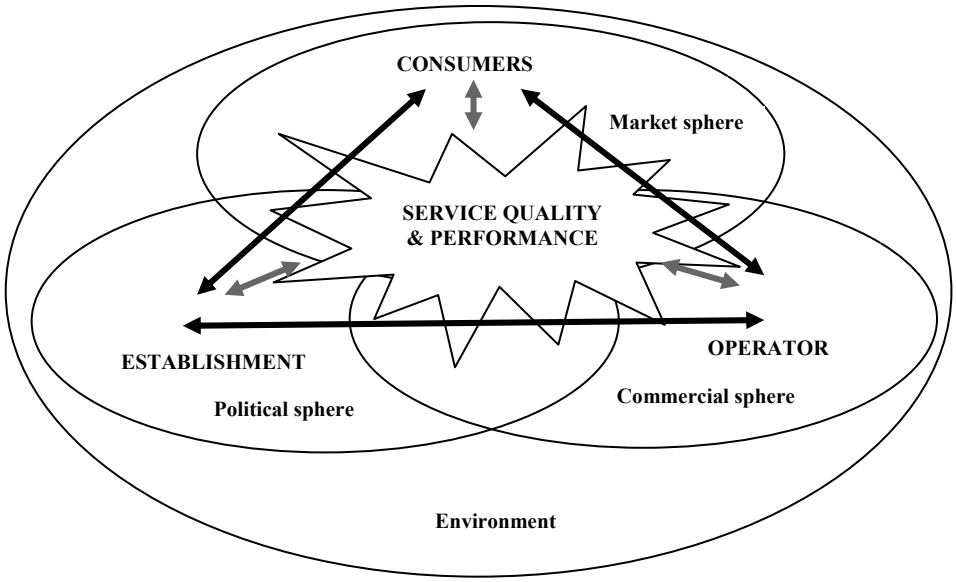


Figure 13. The balance of market forces in water services (source: Hartvelt 1997 from Pietilä 2006)

Shirley (2006) emphasizes the competing nature of stakeholders' interests regarding the performance of water utilities as follows: (1) consumers connected to the water system want quality at reasonable prices, (2) consumers not connected to the water system want access, (3) developers want to expand the building stock, (4) environmentalists want to control development, (5) industrial

firms want adequate water supplies for their needs and (6) farmers want continued access to water at low prices. Moreover, the ultimate aim of politicians is to maximize their electoral results.

On the basis of Dubnick's (2005) performance typology presented earlier in Table 1, the performance of water services provision considers the outcome aspect of performance (the quality of achievement), in other words, the *productivity* and *results* perspective of performance. In the literature, the performance of water services provision is assessed and compared through a variety of performance indicators. Based on purpose, the performance indicators related to water services provision are usually divided into categories such as physical, quality of service, financial, operational, personnel and water resources (Alegre et al. 2006, Mkhitaryan 2009). In a World Bank setting, Van den Berg and Danilenko (2011) measure the performance of water utilities based on a set of indicators for operational efficiency, financial sustainability and customer responsiveness. All in all, based on the literature there can be four major types of performance indicators used for the assessment of water utility performance (Renzetti and Dupont 2004):

1. *Productivity* – economically defined as the ratio between output and input (Mohanty 1998) relates the goods or services produced to the resources used. The term of productivity is often confused with the term efficiency, however, efficiency is linked to the utilization of resources and it mainly influences the input of the productivity ratio (Rutkauskas and Paulavičienė 2005). Productivity recquires both efficiency and effectiveness (Sumanth 1998). Productivity measurement involves the construction of index numbers, which can be used to indicate (Del Gatto et al. 2011):
   - partial; or
   - total factor productivity (TFP).

   Partial productivity indicators relate a water company's output to a single input factor, e.g. the volume of water supplied per employee (labour productivity) or capital (capital productivity). TFP can be measured as the ratio of output per period for all inputs used; it is the ratio of a total aggregate output quantity index to a total aggregate input quantity index (Abbot and Cohen 2009). However, in fact, TFP is more often measured as the rate of TFP growth during the period (Renzetti and Dupont 2004).

2. *Efficiency* – indicates the use of resources so as to maximize the production of goods and services (see Appendix 1). Efficiency can be stated in technical terms or in economic terms, the former being a necessary condition for the latter (Herce 2004). Farrell (1957)[15] explicitly decomposed productive (economic) efficiency into two components – technical efficiency and allocative efficiency – as depicted in Figure 14.

[15] The Farrell (1957) decomposition is a fundamental cornerstone of the theory of efficiency measurement.

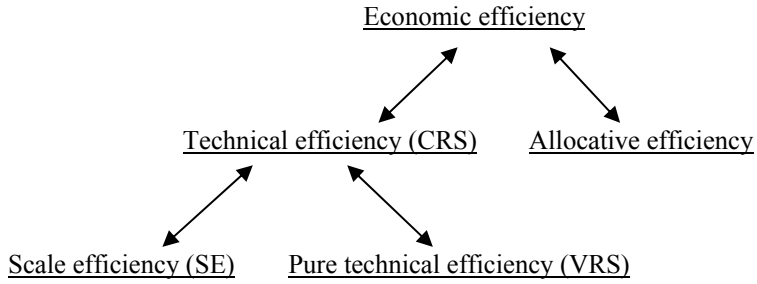


Figure 14. Decomposition of efficiency (compiled by the author based on Webster et al. 1998)

An entity or unit (e.g. company) is considered technically efficient if it produces the largest output possible given the quantity of input used or if, for a given mix of inputs, it employs the least amount of those inputs necessary to produce a given level of output. Additionally, allocative efficiency takes into account the costs of the inputs to produce the given output. Hence, when technical efficiency analysis focuses on technological or engineering opportunities, allocative efficiency makes it possible to evaluate 'whether costs are being minimized to produce a given level of output' in a water utility[16] (Berg 2010). Another decomposition shown in Figure 14 occurs at the level of technical efficiency (under constant return to scale – CRS), where distinguishing scale (scale efficiency – SE) and non-scale effects (efficiency under variable return to scale – VRS) makes it possible to obtain an insight into the sources of inefficiencies. While VRS reflects the managerial ability to influence efficiency (Thansassoulis 2000), SE describes that part of inefficiency which can be attributed to an entity or unit because it diverges from its most productive operating size (Banker 1984). The issue of SE remains important in the water services because water utilities are usually considered to confront economies of scale (Berg 2010) as discussed previously in the present subchapter.

3. *Profitability* – relates the net profit generated by a water company to its equity capital, assets and sales, measured respectively as the annual:
   - rate of return on equity (ROE);
   - return on assets (ROA); and
   - return on sales or net profit margin (ROS).

   These universally applicable ratios make it possible to assess the financial performance of any company. Moreover, the World Bank points out the importance of assessing other aspects of the financial performance of water

[16] There are a number of methodologies, such as stochastic frontier analysis (SFA), data envelopment analysis (DEA), and estimation of cost functions, used for calculating efficiency levels and benchmarking water utilities (Zhu 2009, Berg 2010).

companies besides profitability (Hassanein and Khalifa 2007), such as liquidity (current ratio = current assets/current liabilities) and capital structure (financial leverage ratio = long-term debt/shareholders' equity).

4. *Quality and customer responsiveness* – describe the non-financial performance of water utilities, usually indicating:
   - the quality of drinking water (e.g. compliance with established health protection norms);
   - levels of wastewater treatment (e.g. compliance with established environmental standards); and
   - the quality of the service (e.g. water availability per day, water pressure) provided by a water company (Tynan and Kingdom 2002).

   Moreover, there are two other important performance dimensions – water affordability and access – that describe the responsiveness of water utilities to their customers' interests. Affordability and access are considered key concepts in water services provision from the equity point of view, both issues strongly related to water pricing (García-Valiñas et al. 2010). Hence,
   - affordability ratio – relates a household's costs on water services, which are the function of water tariffs and consumption volume, to its purchasing power (ibid.). The OECD (2010b) notes that 'affordability can be assessed by comparing the price of water services (the water bill) with the capacity-to-pay among final users,' while this capacity can be measured using indicators such as disposable income, household expenditures or expenditures on other important services. Macro (or aggregate) and micro affordability can be distinguished, where the former shows water affordability at the state level, while the latter can be disaggregated by income group, area or household type (OECD 2003). However, there is no absolute level of affordability (ibid.). International organizations, such as the OECD and the World Bank, have suggested that expenditures on water services should not exceed 3–5% of a household's income (OECD 2003, 2010b);
   - access ratio – indicates the part of the population that has access to water services under a water utility's responsibility (Shirley and Menard 2002, IBNET 2011). Access is influenced by affordability (OECD 2003) – if water users cannot afford the services, they will be excluded from access. The share of the population with access to water services (as percentage) illustrates the development of water infrastructure due to being dependent on pipe network coverage in a service area (Tynan and Kingdom 2002).

The above listed key performance indicators of water utilities make it possible to monitor and evaluate the achievement of multiple (often conflicting) financial and non-financial objectives in water services provision. Hukka and Katko (2003) emphasize that economic and technical efficiency is only 'a narrow indicator of the performance and viability of a water utility.' They argue that

viability as a holistic definition can be used to assess the performance of a water utility; however, the major consideration is the achievement of its set goals and objectives (Rees 1984). Therefore, the empirical part of the present dissertation in chapter 3 analyzing complex governance-performance relationships in the Estonian water sector, considers various types of performance indicators such as (1) technical (operational) efficiency scores and (2) profitability ratios of the water companies along with (3) water and wastewater quality indicators and (4) affordability and access ratios of the water services when analyzing the performance. Consequently, for the purpose of the present dissertation, this leads to relevant questions about what performance indicators are used by the local governments and water companies to monitor and evaluate the achievement of their financial and non-financial objectives in water services.

1.3.2. Corporate and regulatory governance mechanisms influencing performance in water services

Natural monopoly and water being a merit good have been used as the major arguments for the public ownership of water companies (Parker 1999, Van Dijk 2008). As noted earlier (subchapter 1.2.2), in the case of the provision of public services by a (partly or fully) publicly owned company, a local government can be tied to it both by a contractual relationship and an ownership relationship. The ownership relationship with a water company enables the local government to use an important corporate governance mechanism – the board – to influence corporate performance, as discussed in subchapter 1.1.3. However, the traditional model of water services provision, where the services are produced by a publicly owned water company (or directly by a local government department) embodies the risk of politicization (Casarin et al. 2007), which can erode the performance of the water company. Foster (2005) argues that publicly owned water companies are rather treated as part of the political apparatus than allowed to operate as an efficient service provider. In the same vein, Boycko, Shleifer and Vishny (1996) emphasize that these companies are useful in keeping politicians in power. The politicians have control over the publicly owned water company through the appointment of board members and provided financing, but in return they may expect artificially low water tariffs, new investments and contracts that are politically targeted (Foster 2005). Furthermore, besides the below-cost water pricing due to populist pressures, there are two other major incentive problems associated with the public water services provision (Araral 2008): (1) non-credible enforcement of performance contracts in the case of conflicting interests, and (2) perverse organizational incentives from weak competition, agency problems and performance measurement problems. Consequently, publicly owned water companies are often considered inefficient and unable to meet the citizens' demands resulting in low quality of service and limited access to water at relatively high costs (Araral 2008).

Therefore, Shirley (2006) concludes that due to the specific characteristics of water – essential, local, dull and mysterious – water services provision also requires a specific design of governance policies and mechanisms. She argues that because of water being essential, there is a need for: (1) a system that allows voters to hold politicians accountable for ensuring an affordable supply, (2) contractual rules that protect consumers from abuses of monopoly power and, (3) a regulatory framework that enforces contractual rules (ibid.). Moreover, Shirley (2006) also suggests that the contracts should (4) reasonably allocate the costs and benefits across interest groups, avoid political pressures in water services provision and, (5) due to water being dull, provide incentives for water companies to operate efficiently and expand to meet demand over time. Hence, natural monopoly characteristics, externalities and welfare concerns comprise a rationale for (local) government regulation in water services provision (Hukka and Katko 2003, Abbott and Cohen 2009).

However, in light of the earlier exploration of the performance expectations from corporate governance related theories (see Tables 3 and 4 in subchapter 1.1.2) and board characteristics (subchapter 1.1.3) and considering the dual role of local governments in publicly owned companies (subchapter 1.2.2), this discussion gives rise to important **research questions** in terms of (1) what are the primary objectives of different types of owners in the water companies, and (2) what characteristics do the members of the board embody in water companies? Ultimately, (3) is there a significant difference in efficiency between the water companies with different – public, private and mixed public-private – ownership?

Economic regulation of water companies

Regulation is part of a nation's public policy usually introduced to protect public interest (Kinnunen 2004, Spiller and Tommasi 2005). Baumol (1995) argues the aim of an economic regulation is to protect 'the public from the detrimental consequences of inadequacies of competition.' In the context of water services Ehrhardt et al. (2007) define economic regulation as following:

> 'The rules and organizations that set, change, monitor, and enforce allowed tariffs and allowed service standards for water providers.'

According to this definition, the economic regulation of water companies does not deal with water tariffs separately from services quality – the service standards the water companies must comply with for revenues they collect from water users. Moreover, Schouten (2009) shows that in water services, the regulation prescribes water service providers on the type and quality of services to be produced, the population they want to sell it to and the price they can charge for their services. Figure 15 illustrates how economic regulation in water services overlaps with other areas of regulation, such as social, environmental

(reservoirs pollution) and safety (public health) regulations. The overlapping areas around the core (e.g. water standards, service coverage) indicate issues that can also be considered part of economic regulation (Ehrhardt et al. 2007).

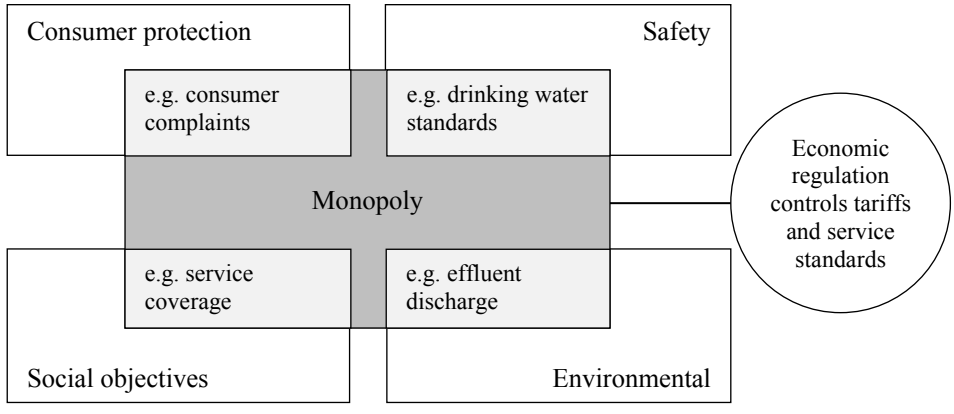


Figure 15. Economic regulation of water companies: addressing the monopoly problem (source: adapted from Ehrhardt et al. 2007)

Parker (1999) points out that achieving a compromise between the regulatory objectives is not easy when the aim of a regulation is to balance (a) maximizing consumer surplus, (b) ensuring adequate profits for the water company to finance investment needs, (c) preserving the quality of the service, and (d) taking into consideration social and environmental issues[17]. However, the focus of economic regulation, also referred to as price controls on natural monopolies, is primarily prices and entry to specific industries or markets (Joskow and Rose 1989). Joskow and Rose (1989) indicate that (water) price regulation may be optimal from a normative perspective, 'if the monopoly firm will choose average prices and profits that are too high (excess profit), and individual prices that may be too high or too low (inefficient rate structure).' If prices are too low to recover costs, the water company may not be able to meet the required service standards, or the (local) government will be required to provide subsidies (Ehrhardt et al. 2007). Hence, economic regulation in the water sector can be viewed as a way to restrain the monopoly power of the water companies and to ensure that they operate efficiently for optimal societal

[17] In the EU member states, the performance of water services provision has been significantly influenced by EU environmental legislation that prescribes minimum water quality standards and requirements for wastewater collection and treatment. The directive on drinking water quality (98/83/EC) and the urban wastewater directive (91/271/EEC) have a direct impact on water companies' profitability and water services affordability by imposing huge costs and requiring capital spending programs for the modernization of the water purification stations and wastewater treatment plants in a relatively short period (Hall and Lobina 2007).

outcomes[18] (Vickers and Yarrow 1988, Pongsiri 2002, Parker 2003, Kessides 2004, Domney et al. 2005). Therefore, in light of the efforts to achieve a balance between different stakeholders' (see Figure 13) performance objectives and considering the multifarious performance indicators used for the assessment of water utility performance (p. 79–81), the discussion leads to an important **research question** of what the trade-off is between the financial and non-financial performance dimensions in the water companies.

Water price regulation methods

Shirley and Menard (2002) argue that an optimal price (economic) regulation provides water companies with the incentive to invest and improve efficiency, while providing the largest possible share of the resulting savings to water users. To that end it is suggested that the (local) government as regulator (contractor) set optimal returns that motivate water companies to perform as efficiently as possible in order to increase profits (Marra 2007). Moreover, Kinnunen (2004) emphasizes that different price regulation methods for controlling water monopolies embody different degrees of incentive for efficiency improvements. Therefore, as Parker (1999) points out, for effective regulation its objectives must be clear and unambiguous.

The two most commonly used regulation methods in water services have been:

- the rate-of-return regulation; and
- the price-cap regulation.

The rate-of-return regulation (also known as bottom-up and cost-plus approach) determines a level of revenues that must make it possible for the water company to recover its costs and permit a given rate of return on their capital stock (Kinnunen 2004, Renzetti and Dupont 2004, Marra 2007). This (cost-based) regulation method often fails to provide expected results due to asymmetric information on the actual costs of the regulated company. Besides, this regulation method does not give a socially efficient solution because the incentive for efficiency improvements is missing (Kinnunen 2004). The method has been criticized for perverse incentives to monopolists to expand their capital stock beyond what is allocatively efficient when the rate of return exceeds the cost of capital (Newbery 2001, Renzetti and Dupont 2004). However, this method has been historically popular in the USA with a relatively long history of private ownership of public utilities, where the main objective of the regulation has

[18] There exist opposing views that focus on government failures, not on market failures and that advocate very limited regulation of monopolies. The criticisms are very much based on information asymmetry between the regulator and the regulated company, emphasizing that the regulator's information about the company (e.g. true costs) remains always incomplete (Jordan 1970, Stigler 1971, Becker 1983, Peltzman 1989).

been fairness in the distribution of profits between shareholders and consumers (Parker 1999).

The price-cap regulation is based on the idea that monopoly water companies cut their costs if they get rewarded with greater profits (Marra 2006, 2007). This price regulation described by the formula RPI-X (retail price index – coefficient X) sets an upper limit for the water price (corporate revenues) and allows the water company to keep the profits that the company can gain through cost reductions during the regulatory period[19] (Kinnunen 2004). The negative coefficient X in the price formula reflects productivity improvements that should result in a lower water price for the next regulatory period (Renzetti and Dupont 2004). The problem is that a water company that is not interested in the lower price cap has an incentive to increase its costs for the time of the new regulatory review (Kinnunen 2004). Therefore, implementing a price-cap regulation in the context of asymmetric information would be a complicated task for the local government as regulator. It can lead to a situation, where the efficiency gains achieved by the water company during the regulatory period will not be shared with its customers at all. The price-cap regulation method is used in the UK, where the government introduced it during the privatisation of water utilities, in order to establish incentives for efficiency improvement in the former state owned water companies (Parker 1999).

Moreover, Rogers et al. (2002) argue that water tariff design (form) plays an important role in striking 'the most desirable balance' between the regulatory objectives. Tariff structures comprise different tariff elements (i.e. connection charge, fixed charge, volumetric charge, block charge, minimum charge) that used in particular combinations help to achieve the regulatory objectives. For example, the two-part tariff structure, which involves both a volumetric variable component and a fixed component, is often used in water pricing schemes to provide the water company with a stabilized income flow (ibid.). In this case, the fixed charge protects the water company from changes in water demand, while the variable component charges water users according to their consumption volume and encourages saving.

Yet, a specific issue in water pricing is related to the objective of cost recovery, which requires the water services to be treated as a private good and priced to cover costs, including investments and externalities (Araral 2008). Rogers et al. (2002) indicate that the need for full-cost pricing is important from the point of view of sustainable and efficient water management. Nevertheless, as they also claim, water tariffs do not often cover even the full supply costs, and sometimes the value of water is lower than the cost of supply (ibid.). Moreover, due to the specifics of water and sewerage infrastructure assets (i.e. long lives, underground location) it is complicated to estimate the actual maintenance and replacement needs of these assets. Conventional depreciation in

[19] In the UK the regulatory agency The Office of Water Services (OFWAT) sets prices for 5 years (Dore et al. 2004).

accounting terms represents the recovery of historical acquisition costs over the lifetime of an asset (Vinnari 2006), which does not necessarily reflect the actual replacement costs of the asset. Calculating the depreciation costs to be included in water prices on the replacement value, not on the historical acquisition costs of the infrastructure assets again would lead to an increase in water prices. However, the inherent difficulty of reliable asset valuation and depreciation provides opportunities for investment deferral and asset stripping (ibid.). In the UK context, Parker (1999) notes that different interpretations of the level of depreciation charge permitted to be entered into a water company's cost structure have caused tensions between the water companies and their regulators.

To sum up, economic regulation (rules) of monopoly water companies is one of the major governance concerns in water services. The different regulation methods and tariff structures for controlling the behaviour of water companies in the public interest embody a different degree of incentives for efficiency improvement and play a crucial role in influencing their financial performance (profitability). Therefore, for the present dissertation an important question arises concerning what regulation methods (e.g. water price formula) are applied to water companies and how these influence the water companies' performance. In particular, what types of costs and to what degree the water companies are permitted to recover with water tariffs? However, regulatory rules must become fixed and stipulated, before they can be applied to water companies.

Regulatory contracts in water services

In the literature, it is suggested that among various governance mechanisms (e.g. licenses, statutes, decrees etc.), a contract can be a good legal instrument for locking regulatory rules in between the local government and water company for achieving coherence and predictability in water services provision (Shirley and Menard 2002, Foster 2005, Ehrhardt et al. 2007, Araral 2008). The advantage of using contracts is seen to stem from the incorporation of both the 'supply and costs' (Lane 1999) in one regulatory contract[20] (e.g. services contract), which means that both the service standards and the price mechanism are stipulated therein. Foster (2005) points out that complementing the price stipulation with the quality-of-service regulation in the contracts is much more significant in cases where the private sector participates in water services production because privately owned water companies may have an incentive to compromise the quality of the service as a cost-cutting measure. Moreover, Shirley and Menard (2002), examining the gains of different water sector reform experiences, argue that regulatory contracts that – (1) reduce information

[20] Regulatory contracts can be viewed as 'the explicit and implicit agreements that define the relationship between a government and a regulated monopoly, and the institutions that govern this relationship' (Shirley and Menard 2002).

asymmetry between the regulator and the water company (2) provide high powered incentives to motivate the water company to comply with the contract's goals; and (3) signal credible commitment from both parties – can bring remarkable efficiency gains. Also, they imply that the design of contracts can compensate for some of the weaknesses in regulatory institutions (e.g. local governments); however, private provision of water services under weak institutions is not advisable and is likely to cause problems with water services affordability (ibid.).

To make a contract effective, the stipulated rules have to be monitored and enforced. Ehrhardt et al. (2007) argue that poor monitoring undermines customer protection and erodes the legitimacy of water services governance in a municipality. To avoid opportunistic behaviour on the part of water companies, it is suggested that clear performance measures complemented with incentives and sanctions are stipulated in the contracts (Shirley and Menard 2002, Brown et al. 2006). Foster (2005) indicates that penalties have proved to be a relatively more effective sanction for privately owned water companies, while they have not had much influence on motivating managers of publicly owned water companies.

However, a fundamental governance problem of contracting in water services is related to asymmetric information between the water company and the local government (regulator), because the regulated water company has a strong incentive not to supply information or distort the information delivered to the regulator (Foster 2005). To overcome this problem, information requirements are usually specified in some detail in the contracts (ibid.). Regular, timely and consistent reporting by the water company as a key element of the contract should make it possible to detect early problems in water services provision (OECD 2010b) and make it possible to exert control over the company. Nevertheless, asymmetric information and contractual incompleteness are still among the major reasons why (local) governments cannot often reach efficient contractual agreements (Lane 1999). In water services, a high degree of incompleteness in contracts is created by the specificity of water infrastructure assets, long contract periods and large investment volumes (Hukka and Katko 2003, Brown and Potoski 2005, Hall and Lobina 2004), as discussed earlier in subchapter 1.3.1.

In summary, a regulatory contract can be viewed as a tool for establishing the rules of the game, which enables the local government to influence performance in water services provision (Parker 1999). For the purposes of the present dissertation, this discussion leads to important questions concerning (1) what are the main stipulations regarding water prices, performance measures and accountability requirements set in the regulatory contracts used, and (2) can the local governments execute effective control over the performance of water companies under these stipulations in the contracts? Together with the earlier discussion on perspectives of accountability (subchapter 1.1) and the use of contracting in public services provision (subchapter 1.2), the abovementioned

questions serve as a basis for the **research questions** concerning the setup and use of contracts and accountability systems in influencing the performance of water companies.

1.3.3. Externalization and the changed institutional roles of local governments in water services provision

The aim of this subchapter is to discuss a modal shift in water services provision and shed some light on performance expectations under different institutional arrangements in water services provision.

During the last two decades (local) governments worldwide have made efforts to reform infrastructure services and involve the private sector one way or another in water services provision (Casarin et al. 2007). Private capital is often seen as being necessary to finance investment programmes in times of austerity or introduce new management practices and technologies (Parker 1995, Marra 2007). Nevertheless, approximately 90% of the world's population is provided with water services directly by public authorities or water companies owned and controlled by them (Hall and Lobina 2007, Steadman 2012). The private sector has been relatively more involved in water services provision in urban settlements, where 25% of dwellers around the world are served by private companies. In Western-Europe, approximately 45% of the population is served by water companies with private sector involvement (Euromarket 2004, Hall and Lobina 2007), while this percentage is just around 15% in the USA (Perard 2007). Water services are fully privatised in England and Wales (Parker 1999). Private water supply provision is particularly important also in France, Spain, Italy and Greece. In the 1990s, French and British water companies also began to expand into the Central and Eastern European countries such as the Czech Republic, Hungary, Bulgaria, Romania, Poland, Slovakia and also Estonia (Hukka and Katko 2003, Hall and Lobina 2007).

In the EU, a large diversity of management systems has been identified in drinking water production and distribution services (Eureau 1997). Van Dijk and Schouten (2004) propose a classification, where they distinguish four main types of institutional governance arrangements in water services provision – Direct Public Management, Delegated Public Management, Delegated Private Management and Direct Private Management – as shown in Figure 16.

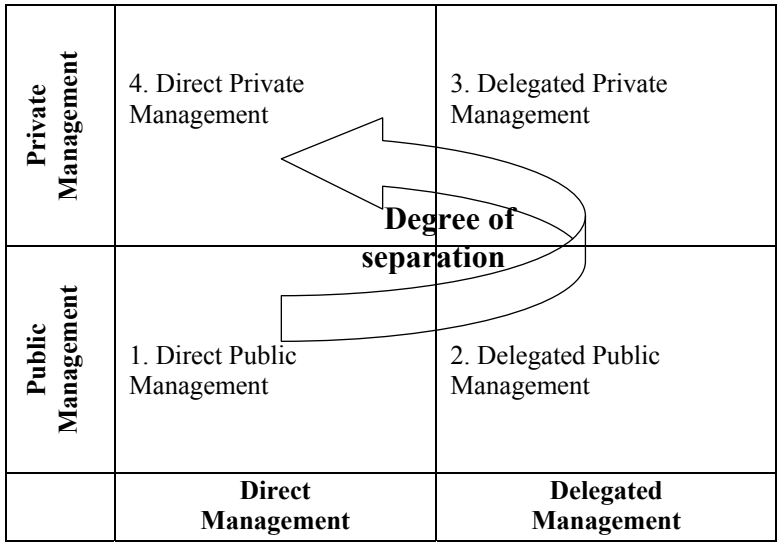


Figure 16. Changes to institutional arrangements in water services provision (source: Van Dijk and Schouten 2004)

The four institutional arrangements in Figure 16 reflect the degree of separation between the local government and the water services provider, which generally decreases in strength when moving from 1 to 4. The four cells in Figure 16 indicate the extent to which the local government has handed control of funding, investment and management decisions over to the water services provider (Schouten 2009). In the case of *Direct Public Management,* the local government is responsible for water services provision and executing management tasks. There is no contract between the local government and the water services provider and it is difficult to distinguish them as separate parties. Water tariff setting is mostly conducted by the local government. In the case of *Delegated Public Management*, the local government appoints a water services provider in the form of a separate publicly owned company to execute the management of water services at arms' length. Water tariff setting is mostly delegated to the water services provider and the local government acts as a shareholder in the company. *Delegated Private Management* means that the local government delegates the management tasks to a private entity on the basis of a temporary contract (e.g. concession contract), but the infrastructure still belongs to the local government. The private entity has the role of the water services provider. Water tariff setting is mostly stipulated in the contract between the parties, which also prescribes control mechanisms and procedures. The last institutional option of water services provision in Figure 16, *Direct Private Management* implies that the local government limits itself to control and regulation. All tasks, responsibilities and ownership (of infrastructure) are

placed in the hands of private parties. This is the most radical change compared to the traditional direct public production and delivery of water services. The privately owned water services provider has a sort of license to operate (Schouten 2009). Water tariffs are set by the water services provider controlled and regulated by the local government.

Another major change to the traditional model of water services provision is the separation of the functions of policymaker, regulator and service provider as illustrated in Figure 17. The introduction of a separate regulatory agency is a key element of many water sector governance reforms, viewed as one option for mitigating political interference by the (local) government in water services provision (Foster 2005).

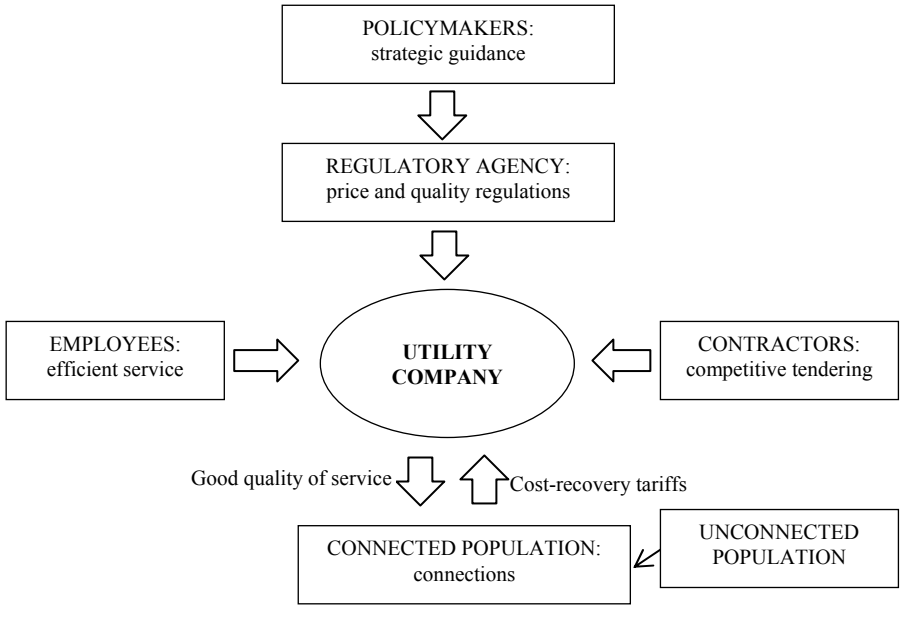


Figure 17. The reformed model of water services governance (source: adapted from Foster 2005)

A separate regulatory agency (independent regulator) is introduced to insulate the water company from political interference. It is the duty of the regulator to require that the water company conducts its business in line with set operational and financial rules. A key function of the regulator is to set water tariffs at a level that allows the water company to recover its efficient costs of operation, as well as earn a reasonable rate of return, while at the same time monitoring the achievement of quality and coverage targets by the company. Politicians in (local) government are left to provide a strategic direction to the water sector (ibid.).

Berg and Holt (2001) emphasize that when creating a separate regulatory agency, policymakers should consider both agency design and regulatory processes. The design of the regulatory agency relates to the clarity of the roles in relation to other government institutions. Regulatory processes result in rules and policies that influence the behaviour of water companies, as well as water sector performance (ibid.). Parker (1999) argues that the relationships between the regulator and the regulated water company are interactive and evolving, which implies that they cannot be specified fully *ex ante* in any contract and that trust is important for an effective regulation (Lapsely and Kilpatrick 1997). Moreover, Parker (1999) points out that a well-functioning regulatory governance system balances accountability, transparency and consistency. Similarly, Berg and Holt (2001) note that citizen participation, transparency and predictability in decision-making characterize an effective regulatory process in water services. The regulatory agency's autonomy and accountability are viewed as interlocking design features, and regulators that are totally autonomous without public accountability are not considered acceptable (ibid.). However, as Parker (1999) notes, 'at the heart of the accountability there is also the right to appeal' given to regulated water companies. Finally, Foster (2005) concludes that under such a governance system as illustrated in Figure 17, water services provision can be delegated either to a privately or publicly owned water company[21]. In the literature there is consensus among authors that a strong institutional environment is a necessary prerequisite for private sector involvement in water services provision to properly protect public interests (Parker 1999, Hukka and Katko 2003, Foster 2005, Shirley 2006, Casarin et al. 2007, Schouten 2009).

Nevertheless, Bartle and Vass (2007) criticize the establishment of specialized regulatory agencies in water services. They argue that there is a strong need to reduce information asymmetry, but with the independent regulatory agencies this increases within the 'public authority between the local government department (low information) and the regulatory agency (high information).' Bartle and Vass (2007) also claim that policymaking at the local government level suffers from 'low' information. In the same vein, Stern (1997) proposes that in new democracies, transparency and predictability of regulation with a clear assignment of functions can be better achieved by a less ambitious approach than that using a fully independent regulator. Similarly, Ehrhardt et al. (2007) argue that when this governance model is transferred to transitional countries, regulatory independence is often undermined by political interference.

[21] The UK regulatory system with the independent regulator OFWAT established during the privatisation of water companies in England and Wales is a well known example for that (Parker 1999).

All in all, Hukka and Katko (2003), having analyzed the institutional arrangements in different countries, conclude with four distinct models of water services provision in practice:

1. *Finnish-Scandinavian-Dutch model*: pluralistic, regulated public monopoly. Private sector competition for non-core operations;
2. *English-Welsh model*: dualistic, regulated private monopoly. Owner company's vertical integration in non-core operations;
3. *French model*: mayoral, competition for regulated municipal monopoly rights between monopolies. Operator company's vertical integration in non-core operations;
4. *Developing and transition economies*: one party system, centralized un-regulated public monopoly. Lack of private non-core service producers.

Hukka and Katko (2003) argue that only under the Finnish-Scandinavian-Dutch model and the French model do local governments have real decision-power in water services provision. These two models also provide some opportunities for competition. In the case of the English-Welsh model using private water monopolies, they summarize that 'profit maximization is the actual driving force' (ibid.). An important aspect that all four models commonly address is the regulation – in the first three models, water companies are subject to economic regulations, in the last model the regulation is missing. Interestingly, in the Estonian municipalities explored and discussed further in chapter 3, water services provision is organized under different governance models, some follow a sort of combination of the Finnish-Scandinavian-Dutch and the developing and transition economies models, while others have applied proxies of the English-Welsh model, distinguished by Hukka and Katko (2003).

To sum up, water services can be provided under various institutional arrangements. Important features of the institutional arrangements are related to the autonomy of the water companies (decentralization) and private sector involvement in water services provision. The introduction of separate regulatory agencies is a fundamental change to the traditional governance model in water services, seeking to better balance the interests of different stakeholders. Of importance to this research is the recognition that the externalization and establishment of an independent water regulator are considered to insulate the management of the water company from political interference that erodes the performance of water services provision. However, the different degree of local government control over management, investment and funding decisions gives a rise to a relevant question about the power of water companies in influencing the financial and non-financial performance of water services provision. Moreover, considering that the (supervisory) board is a major corporate governance body of a company as discussed earlier in subchapter 1.1.3, this allows us to conclude a **research question** about the roles of the board in influencing the performance of the water companies. Since these reform initiatives can be viewed as attempts to introduce some market-like management pressure on

monopoly water companies to push them towards greater efficiency and effectiveness in their operations, for the purposes of the present dissertation, the ultimate questions remain as follows: (1) how have the private sector involvement in water services provision and, (2) the (non-) separability of policymaking from regulating in local governments influenced the performance of water services provision in Estonian municipalities.

1.3.4. Relationships between governance and performance in water services: evidence from previous studies

The discussion of the present dissertation on the basis of the theoretical works by governance researchers, finds support for the supposition that governance can influence corporate performance in the water sector. The aim of this subchapter is to draw together the main empirical findings from previously conducted studies on the relationship between governance and performance in the field of water services provision.

Several research streams can be distinguished in the literature, among empirical research focused on the governance-performance relationship in water services. First, the majority of empirical research on the governance-performance relationship focuses on the influence of ownership on the performance of water services providers with respect to efficiency and productivity. These studies mostly consider ownership as either fully public or private, because the public-private partnerships in the middle of the two polar extremes are difficult to characterize empirically, and therefore, have 'not been studied systematically' in water services (Renzetti and Dupont 2004). Most of the empirical studies looking at efficiency under private vs. public ownership have been in the form of cross-sectional comparisons of both types of water companies in countries where they coexist. As revealed in Table 5 below, most of the initial (cross-sectional) work on ownership-performance was undertaken in the United States where there exist a large number of both publicly and privately owned water companies. Later in the 1990s, after the privatisation of the English and Welsh water companies, a number of (longitudinal) studies exploring the productivity and efficiency changes resulting from the ownership change in those water companies was published. However, the results of the empirical studies shown in Table 5 are somewhat ambiguous and far from conclusive – some of the previous studies have found empirical evidence supporting higher efficiency on the part of publicly owned water companies (point 1), while other authors consider that privately owned water companies outperform the publicly owned ones (point 2). Inconclusive evidence on the influence of ownership on the efficiency of water companies is found as well (point 3 in Table 5). Moreover, in the context of water company privatisations, there is some evidence that indicates limited improvement in the efficiency of water companies after privatisation (point 4 in Table 5), while other studies (point 5 in Table 5) did not

witness any improvement or even found a decline in overall efficiency (see Saal et al. 2007).

Table 5. Evidence from studies on ownership effects on efficiency in water companies

	Results	**States**	**Authors**
1.	Public more efficient than private	USA	Mann and Mikesell 1976, Bruggink 1982, Lambert et al. 1993, Bhattacharyya et al. 1994, Bhattacharyya et al. 1995, Shih et al. 2006
2.	Private more efficient than public	USA, African states	Morgan 1977, Crain and Zardkoohi 1978, Raffiee et al. 1992, Bhattacharyya et al. 1995, Estache and Kouassi 2002, Kirkpatrick et al. 2006
3.	No significant difference in efficiency between public and private	USA, African states, Asia-Pacific states, Spain, Brazil	Feigenbaum and Teeples 1983, Byrnes et al. 1986, Teeples and Glyer 1987, Battese and Coelli 1995, Estache and Rossi 2002, Houtsma 2003, Garcia-Sanchez 2006, da Silva e Souza et al. 2007, Wallsten and Kosec 2008
4.	Efficiency or productivity improvement resulting from privatisation	UK, Argentina	Bosworth and Stoneman 1998, Saal and Parker 2001, Estache and Trujillo 2003
5.	No efficiency or productivity improvement resulting from privatisation	UK	Shaoul 1997, Saal and Parker 2000, Saal and Parker 2004, Saal et al. 2007

Note: the efficiency/productivity assessments conducted through regression analysis, data envelopment analyses and stochastic frontier analysis.
Source: compiled by the author

There have also been some quantitative studies where the ownership variable is interacted with other variables to test its effects on efficiency. For instance, Bhattacharyya et al. (1995) brought into the ownership-efficiency discussion the aspect of size, finding that publicly owned water companies are more efficient at large production levels, while privately owned water companies are more efficient at small production levels. In a recent study on the efficiency of Chinese water companies, Wang et al. (2011) find that the involvement of foreign companies in water services provision, rather than domestic private companies, significantly improves efficiency. They explain this with the desire

of the international water companies to have a good reputation through improved performance in their operations (ibid.).

Moreover, Hassanein and Khalifa (2007) compare the profitability of publicly and privately owned water companies in the United States. They find that the average ROA ratio for private water companies (28.6%) significantly exceeds that of publicly owned water companies (15.7%) indicating higher sales and utilization of assets to generate sales. At the same time the average ROS for publicly owned water companies (15.8%) exceeds that of privately owned water companies (10.4%). Shaoul (1997) assesses the profitability of the English and Welsh water companies before and after privatisation finding an increase both in costs and profits. The total (pre-tax) profits for the UK water companies increased on average by 142% over the 1989/1998 period (Dore et al. 2004). Moreover, they find that the profitability of the privatised English water companies was very high in the international context (of Sweden, Spain, Hungary and France), indicating that their average rate of return on capital (23%) was almost three times that of publicly owned water companies in Sweden[22] (8%) (Gustafsson 2001, Dore et al. 2004). In the same context, Dore et al. (2004) indicate that the privatised water companies in England and Wales had costs that were twice the size of those of publicly owned water companies in Scotland.

As noted in subchapter 1.2.3, the critics of privatisation in public services argue that relatively higher efficiency, if any, can only be achieved at the expense of quality (Domberger and Jensen 1997). However, in the context of the UK water companies, Parker (2003) finds no evidence that efficiency improvements would have been at the expense of service quality. Shaoul (1997) being critical of the privatisation of water companies indicates that there was only little improvement in service quality (e.g. customer complaints, water use restrictions) in the UK. Menard and Saussier (2000) compare the compliance of French water companies under direct (public) and delegated (private) management with water quality regulation. They find that there is no difference in the compliance with set quality standards between the water companies under public and private management (ibid.). Moreover, Dore et al. (2004) analyzed the outcomes of water services privatisation in both France and the UK and concluded that water quality had improved, but at a higher cost in terms of water prices and higher returns on private capital. They find that in France the water prices of private water companies were 40% higher than publicly owned water companies, which they argue may be caused by different methods of depreciation and under-pricing by the publicly owned water companies (ibid.). Similarly, Lobina and Hall (2001) indicate that during the first decade after privatisation the average water bill increased by 46% in England and Wales.

[22] In both countries there was full cost recovery allowed for the water companies (Dore et al. 2004).

Also, in the Spanish context, Martínez-Espiñeira et al. (2009) find that private water companies set higher water prices on average than publicly owned ones.

In the literature, the second distinguishable stream of empirical research in the field of the governance-performance relationship in water services focuses on the influence of public authority (e.g. local government, independent regulator) regulations, incentives and control over the performance of water companies. As in the previous research stream, here most of the studies are also conducted in the context of the UK water sector (Abbott and Cohen 2009). As a main finding, it can be concluded that the role of tight economic regulation is crucial in achieving efficiency improvements in water services (Parker 2003, Abbott and Cohen 2009). The studies by Saal and Parker (2000, 2001, 2004) and Saal et al. (2007) indicate that (technical) efficiency and productivity improvements in the privatised UK water companies occurred mainly after substantial regulatory tightening in the form of a price-cap review in 1995, not immediately after privatisation in 1989 (Parker 2003). Moreover, in the United States context, Aubert and Reynaud (2005) find that the efficiency of water companies is influenced by the type of regulation applied (price cap vs. rate of return) – the highest efficiency is achieved in the case of the rate of return (price) regulation when the regulator can gather extensive information (Abbot and Cohen 2009).

In EU countries, beside national and local regulations, the performance of water companies has been found to be significantly influenced by EU environmental legislation – the directive on drinking water quality (98/83/EC) and the urban wastewater directive (91/271/EEC) – which prescribes minimum water quality standards and requirements for wastewater collection and treatment. In the literature there are a number of authors indicating that these EU directives have imposed large costs and required multi-billion euro capital investments for the modernization of the water purification stations and wastewater treatment facilities throughout Europe (Cowan 1998, Ashton 2000, Parker 2003, Renzetti and Dupont 2004, Dore et al. 2004, Hall and Lobina 2007). Consequently, the stringent EU regulations are found to be a major reason why prices increased in real terms (by over 40%) in water services as opposed to other regulated industries after privatisation in the UK (Parker 2003, Dore et al. 2004). Thus, the effect of privatisation on expenditures in water companies became overshadowed. However, as a result of the required investments, compliance with EU water quality standards improved from 76% in 1989 to almost 92% in 2000 (ibid.).

The third distinguishable group of research articles in the literature regarding governance-performance relationships in water services is concerned with water services governance reforms and failures around the globe. Important features of these studies relate to the water companies' autonomy (decentralization) from politicians in (local) governments. In light of Mexican water sector reforms, Anwandter and Ozona (2002) find that decentralization and the establishment of a separate regulatory agency over water companies do not constitute an effi-

ciency (competition) enhancing institutional arrangement, if there remain the informational asymmetries between the regulator and the water companies. Moreover, in the context of developing and transitional countries in Asia and Africa, Ehrhardt et al. (2007) indicate that the separate regulatory agencies in such countries are vulnerable to political interference (e.g. in Manila, the Philippines) and consequently not ensuring coherence between the required service quality and (low) water prices. Instead, contracts as less ambiguous governance mechanisms than independent regulatory agencies were found to better prevent short-term political interference in the (developing) new democracies (Stern 1997, Ehrhardt et al. 2007). There are a number of studies analyzing the reasons for success and failure in particular instances of the privatisation of water companies. Shirley (2006) and Casarin et al. (2007) find in light of the privatisation of the Buenos Aires water company that the inability of policymakers to consider the political and institutional implications of the specific characteristics of water services, adversely affects the privatisation outcomes. In the same vein, Shirley and Menard (2002) find that privatisation under poor regulation is a major reason for re-negotiations and cancellations of private investments. Hall and Lobina (2006) and Ehrhardt et al. (2007) indicate that many private investors had failed in the water services and ended-up with contract terminations because the regulatory systems by governments did not assure the required rate of return (or even recovered costs). Moreover, Araral (2008) analyzes a public water utility reform in Cambodia and shows that a publicly owned water company is likely to be more efficient, effective and able to meet growing demand if 'the fundamentals' are right in terms of water price (cost-recovery pricing) and governance (autonomous company operating under commercial principles and using performance measures). Also, they indicate the importance of political leadership to be credibly committed to substantial improvements in water services. Finally, in the Estonian context, Vinnari and Hukka (2007) analyze the partial privatisation of Tallinn Water and find that the city government did not achieve its goals regarding the privatisation (i.e. extra infrastructure investments) because the policymakers exhibited limited proficiency and effectiveness in preparing tender documents (e.g. not including investment terms and conditions at the initial tendering stage) and contracts, such as the shareholder's and services contracts.

Moreover, in the local context, only a few other academic studies (Banhard 2001, Balslev Nielsen and Hoffmann 2003, Hall 2003, Hukka 2004, Peda et al. 2011) have been published that shed light on corporate governance and performance issues in the Estonian water services sector (see also page 10). However, none of the abovementioned studies provide evidence of how Estonian local governments set up and use both the corporate and regulatory governance mechanisms in water services provision, and how the different governance patterns determine financial and non-financial performance in water services.

In summary, the present literature overview of empirical studies of the governance-performance relationships in water services reveals that the studies

largely test ownership effects on water company performance by using quantitative research methods. A central research question of the given studies is whether externalization and private sector involvement in water services provision makes a difference in the efficiency and productivity of water services provision. There are significantly less studies controlling for the externalization effects on other performance dimensions in water services, such as the service quality. All in all, the results of the empirical studies diverge and do not provide conclusive evidence on the superiority of public or private ownership regarding the efficiency and productivity of water companies. Nevertheless, the studies indicate that as a result of externalization, water tariffs and corporate profits along with service quality have often increased in water services. Moreover, the empirical studies reveal that the improvement of financial and non-financial performance in monopoly water services provision depends largely on the type and strictness of price control and environmental regulation (i.e. rules) applied to publicly and privately owned water companies. Finally, the results of these studies provide support for the view that for successful externalization in water services, it is important to have proper governance institutions in place, which are able to mitigate information asymmetry between themselves and the water companies to ensure the achievement of the often divergent performance goals of both parties (e.g. service quality and corporate profits). Establishing a separate regulatory agency to supervise water companies is neither a sufficient nor necessary condition for effective performance enhancing governance in water services. Rather, the commitment of the political leadership becomes inevitable for performance improvements in water services provision.

2. RESEARCH DESIGN AND METHODS

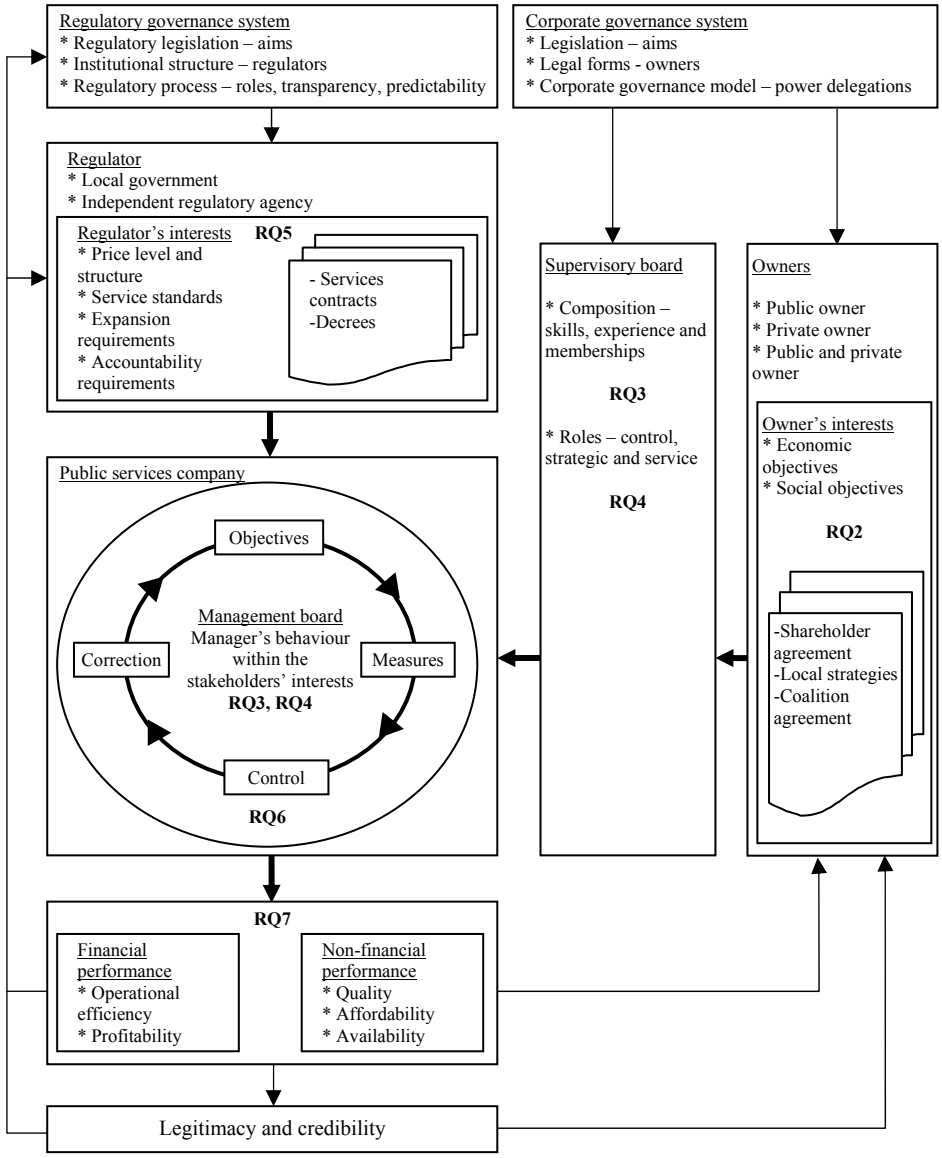
2.1. Research framework and research questions

The aim of this subchapter is to draw together the concepts and literature presented in the theoretical part (chapter 1) of this dissertation. The previous discussions on governance, performance and their relationships in public services provision and more particularly in water services are incorporated into a framework that will be used for analyzing the influence of governance on performance of water companies in the empirical part of this study (chapter 3). To do that, the research questions are formulated and drawn together as presented further in this subchapter.

Corporate governance (p. 20–22), accountability (p. 22–26) and performance (p. 26–28) are the key concepts applied in this study. In its narrower perspective, corporate governance focuses on the governance relationship between the principal (owner) and the agent (manager) in a company. In this relationship, the interests of these governance actors may vary and the variations reflect in decisions, which consequently can influence corporate performance. However, the owner can use corporate governance mechanisms for controlling and directing the manager's behaviour (decisions); thus influencing corporate performance (p. 42–43). Among the various corporate governance mechanisms corporate board(s) (p. 43–49) has a central position in solving and avoiding agency problems. To facilitate the control over the manager's behaviour and to ensure (through the board) that the owner's, not the manager's interests, are pursued in the company, accountability as a social mechanism is put in place. It serves to link the owner's goals and the manager's delivery against them and holds the manager to account for the decisions and the achievement of the goals. Making the manager responsive to the board (owner), the accountability enables the owner to influence the performance of the company. In the context of the broader view of corporate governance there are also other stakeholders considered (e.g. customers, local government), and not only owners, that have interests in the company's activities and performance. Of importance to this dissertation is the recognition that, when in general corporate performance can be influenced through establishing a governance and accountability system, differences in the governance and accountability practices can also result in differences of performances.

The previously discussed corporate governance related theories (p. 33–42) provide various insights into governance actors' interests (e.g. agency theory, stewardship theory) and the role of ownership structure in influencing corporate performance. Some of the theories (e.g. property rights and public choice) argue that privately owned companies are likely to outperform publicly owned companies in terms of efficiency, while others (e.g. transaction cost and industrial organization theory) suggest that in a specific monopoly context privately owned companies are not relatively more efficient *per se*. Figure 18

outlines a tentative governance and management framework of a regulated public service company, such as a water company, that shows how the influence of ownership structure on the financial and non-financial performance of the company depends on the set up and use of governance mechanisms.



Note: the bold arrow lines on the figure depict the relationships under investigation

Figure 18. Framework for analyzing the influence of governance on the performance of public services company (source: compiled by the author)

This research framework depicts connections between the key governance actors, their major interests and the major governance mechanisms in use by the actors when pursuing their own objectives (i.e. performance) regarding the water company.

According to Figure 18, a water company operating under national corporate governance and regulatory legislation (the upper rectangles) can have public, private or both public and private owners (the rectangle on the right). The different types of owners (e.g. local government, private company) can have different interests regarding the economic and social objectives of the water company (p. 39, p. 78-79); however, one ultimate aim of the owners relates to profit and the preservation of the company (p. 66). Nevertheless, differences in the owners' interests are reflected further in their decisions regarding the set up and use of corporate governance mechanisms (e.g. the composition and the role of supervisory board) for ensuring the required performance. Moreover, the previous discussion of theories suggested that privately owned companies can outperform publicly owned companies in terms of efficiency, but this remains questionable in the context of monopoly water utilities (p. 42). The results of empirical studies diverge and do not provide conclusive evidence on the superiority of public or private ownership regarding the efficiency and productivity of water companies (p. 95). Considering this, the opening research question (RQ1) aims to test the theoretical expectations of the ownership-performance relationship stemming from corporate governance related theories as follows:

> **RQ1: Is there a significant difference in efficiency between water companies with public, private and mixed public-private ownership?**

And as we explore the governance related causes behind differences in the financial and non-financial performance of water companies, the second research question (RQ2) is proposed as follows:

> **RQ2: What are the primary objectives of the different types of owners in the water companies?**

Moving along the black arrows from right to left in Figure 18, it indicates that the owners delegate some of their power (control) to appointed members of the supervisory board, who represent their interests in the water company. Under the two-tier corporate governance model, the functions of management and control are formally separated between the management and the supervisory board that should avoid the manager (CEO) enhancing his or her own interests through decisions that are not optimal for the owner (p. 44–45). The members of supervisory and management board embody particular social and educational background, skills and work experience (p. 46–49) that enable them to execute their duties in the water company. The supervisory board as a corporate governance mechanism intends to ensure that the owners' and managers'

interests are aligned. The traditional tasks of supervisory board are also related to manager appointment and remuneration and if needed, the supervisory board removes ineffective managers. Moreover, besides the classical control function, the supervisory board members can also fulfil service roles and strategic roles (p. 45–46). Therefore, the third (RQ3) and the fourth research question (RQ4) are posed as follows:

> **RQ3: What characteristics do the members of supervisory board and management board embody in water companies?**
>
> **RQ4: What are the roles of the boards in influencing the performance of water companies?**

As revealed in Figure 18, the water company is managed (the square with the circle of arrows in it) not only under the conditions of corporate governance, but it also operates under specific regulatory conditions in the water sector (the rectangles on the upper right). The model of the contractor-provider split (p. 65) separates the different roles of the local government and the water company – ensuring and providing – in water services. As the contractor (or regulator), the local government plans and monitors water services provision by the specialized water company. Moreover, as a service contractor, the local government is primarily interested in non-financial performance, such as service quality, affordability and access to water services. Consequently, a specific conflict of interest arises for the local government in a publicly owned water company due to its dual role as an owner with economic objectives and a service contractor (guarantor) with social objectives (p. 66–67).

However, in pursuit of its interests as contractor (regulator), the local government can introduce a set of specific governance mechanisms – regulatory contracts – into its water services governance system to direct and control the performance of water services provision (p. 63–64). The contracts (e.g. services contract) can be viewed as a tool for establishing important rules of game; that is, stipulations on water price, service quality, network expansion and importantly, accountability requirements in the governance relationship between the local government and the water company (p. 87–88). Moreover, the tasks of the regulator regarding setting the water tariffs and monitoring the achievement of quality and coverage targets by the water company can be delegated from the local government (policymakers) to a separate regulatory agency (p. 91). The introduction of an independent regulatory agency is a key step in many water sector governance reforms, viewed as an option that (1) mitigates performance eroding political interference by (local) government, and (2) better balances the interests of different stakeholders in water services. Therefore, the fifth research question (RQ5) is formulated as follows:

RQ5: How does the setup and use of regulatory contracts and institutions influence the performance of the water companies?

To facilitate control over the manager's decisions and to ensure that the owner's interests are pursued in the water company, a performance-based accountability system is set up in the company (the circle of arrows in Figure 18). The substance of performance-based accountability is performance, and it aims to demonstrate and give account of results against established targets (p. 24–25). However, accountability is not limited to a single two-party principal-agent relationship. On the contrary, governance actors, such as the manager or chairman of the supervisory board, can be accountable to a number of parties inside and outside (e.g. local government) their company; hence, accountability is a social mechanism for directing and controlling (i.e. influencing) any governance actor in pursuit of the interest of some significant other (p. 26). Accountability has the potential to serve as a facilitator of the relationship between governance actors. Therefore, considering the aims of the present dissertation, this discussion leads to the sixth research question (RQ6) as follows:

RQ6: How do the accountabilities make it possible for the governance actors to achieve their objectives in the water company?

All in all, depending on the ownership structure of the water company, this can be tied to a local government either by a contractual relationship (private ownership) or by both a contractual relationship and an ownership relationship (public, mixed public-private ownership) (p. 67). In either case the water company managers are faced with the multiple, often conflicting, objectives of the owner(s) and the regulator, seeking to balance the financial (economic) and non-financial (social) performance of the company (p. 84). Corporate boards and regulatory contracts (e.g. services contract) are the key governance mechanism that in combination, used by the governance actors for influencing decision-making in the water company, determines the trade-off between financial and non-financial performance in water services provision (the rectangle down on the left with contrary arrows in Figure 18). Therefore, in light of the discussion in the present subchapter, the seventh and final research question (RQ7) is stated as follows:

RQ7: What are the trade-offs between financial and non-financial performance in the water companies?

The discussion above indicates that in order to provide a deeper insight into the influence of governance on the performance of water services provision, the empirical research has to be conducted in various domains of corporate and regulatory governance, accountability and performance in the water sector. After having presented the conceptual framework and research questions, the following subchapter describes the adopted research methods and data collection for the empirical research.

2.2. Research methods

The empirical research of the present dissertation is conducted using both quantitative and qualitative research methods; thus, it embodies the elements of a mixed-method research (Tashakkori and Teddlie 1998, Teddlie and Tashakkori 2003). Tashakkori and Creswell (2007) define mixed-methods as 'research in which the investigator collects and analyses data, integrates the findings and draws inferences using both qualitative and quantitative approaches or methods in a single study'. Halcomb and Andrew (2009) point out that mixed-methods research is not simply the ad hoc combination of qualitative and quantitative methods, but the qualitative and quantitative data collected must be integrated at some stage in the research process into a single study. Moreover, Creswell et al. (2003) emphasize that in a mixed research, the qualitative and quantitative data can be collected concurrently or sequentially and that either one or other set of data can be given priority (Morse 1991, Morgan 1998). The rationales for using a mixed-method research usually include arguments for providing a basis for triangulation (Denzin 1978), expanding and complementing (illustrating/ clarifying) the results obtained through one research method with the use of another method (Spratt et al. 2004). However, Tashakkori and Creswell (2007) and Johnson, et al. (2007) argue that mixed-methods research is evolving and the discussion of what it actually is 'should be kept open' (Doyle et al. 2009). Figure 19 summarizes different research methods used with organizational samples, which are divided between the two parts of the empirical research.

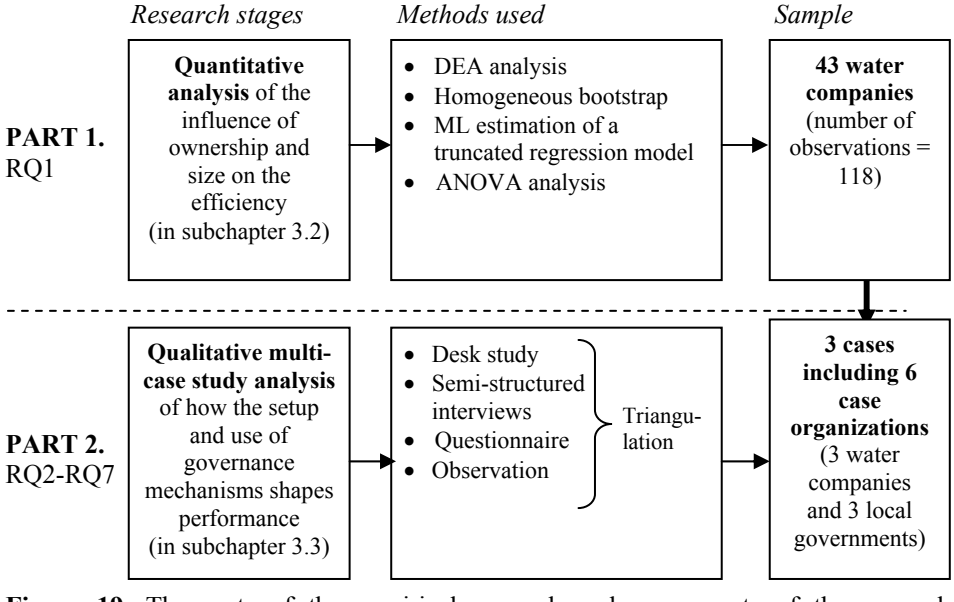


Figure 19. The parts of the empirical research and components of the research methodology (source: compiled by the author)

Quantitative analysis

The first part of the empirical research (subchapter 3.2) in the present dissertation comprises a quantitative analysis of the influence of ownership and corporate size on the technical (operational) efficiency of Estonian water companies. The quantitative analysis of panel data aims to provide an answer to the first research question (RQ1) formulated in the previous subchapter – is there a significant difference in efficiency between water companies with public, private and mixed public-private ownership? Moreover, considering the fact that water utilities tend to be natural monopolies, the effect of size and ownership-size interaction on the efficiency of the water company is also tested. In the context of the mixed research method, the quantitative study can be viewed as a preliminary and complementary study for the qualitative case study analysis that seeks to map the patterns of how governance influences performance in water services. The efficiency gaps between water companies from the quantitative study were considered during case study selection and when conducting the desk-study and preparing interview questions for the qualitative analysis.

The quantitative analysis of this dissertation will proceed in three major stages. The first step involves the application of Data Envelopment Analysis (DEA) to obtain year-by-year efficiency scores for the sample water companies. The DEA method determines simple relationships among variables – water companies that produce far less output than others with the same input levels are deemed to be relatively inefficient.

DEA is a non-parametric linear frontier method that is widely used in efficiency measurements, especially in studies of utility industries. Non-parametric methods differ from parametric methods by not requiring any specification of production or cost function in advance, which is a great advantage (Zhu 2009). In a DEA model, the measure of efficiency of any company is obtained using the ratio of weighted outputs to weighted inputs subject to the condition that similar ratios for every company are equal to or less than unity (Zhu 2009). This relationship is expressed mathematically in Equation (1), which presents a maximization exercise (Corton and Berg 2008):

$$max \dots \lambda_0 = \frac{\sum_r^s =_1 \alpha_r Y_{r\,0}}{\sum_i^m =_1 \beta_i X_{i\,0}} \;\; S.T. \; \frac{\sum_r^s =_1 \alpha_r Y_{r\,j}}{\sum_i^m =_1 \beta_i X_{i\,j}} \leq 1$$

$$\alpha_r, \beta_i \geq 0; j = 1 \dots n; i = 1 \dots m; r = 1 \dots s \qquad (1)$$

Here, Y_0 and X_0 are observed output and input variable vectors of the company under evaluation; α and β are the weights to be applied to all units; i represents an input within a set of m, r an output within a set of s, and j one of the n companies.

The output from a DEA exercise is the proportion by which the observed inputs could be contracted if the company were to operate efficiently. While the same volume of output can be produced optimally with fewer inputs, this is referred to as an input-efficiency approach (Farrell 1957). It is common practice to use input orientation in efficiency analyses of network utilities because the companies are generally supplying services to a fixed geographical area, and hence the output vector is essentially fixed (Coelli and Walding 2005).

Throughout the quantitative analysis the efficiency scores computed under both the variable returns to scale (VRS) and the constant return to scale (CRS) assumptions will be used. Efficiency under CRS is deemed to be overall efficiency, as it can be deconstructed into two components, VRS and scale efficiency (SE), providing an insight into the source of inefficiencies. VRS, also known as "pure efficiency", has its boundary within CRS and reflects the managerial ability to organize inputs in the production process (Thanassoulis 2000). The ratio of these two efficiency measures (CRS/VRS) shows the impact of scale on efficiency for each company. The SE describes that part of inefficiency which can be attributed to a company because it diverged from its most productive operating scale size (Banker 1984).

After obtaining the DEA scores, the average impact of external factors (e.g. ownership form) will be estimated. This is accomplished through the second-stage parametric regression analysis, where external factors are regressed on the derived efficiency scores, which are truncated; that is, limited to the interval [0, 1]. Simar and Wilson (2000) suggest that the appropriate routine here is the maximum likelihood estimation of a truncated regression model complemented by bootstrap simulations. Bootstrapping has proven attractive in analyzing the sensitivity of efficiency and productivity measures to sampling variation (Odeck 2008). In this paper, we follow the homogeneous bootstrap algorithm outlined by Simar and Wilson (1998, 2000), computing bias-corrected efficiency estimators from 1000 bootstrap replications using the FEAR 1.2 software package.

In the last stage of the analysis, a series of one-way Analysis of Variances (ANOVA) tests were conducted to examine the differences in mean efficiencies and profitability between water company groups based on ownership type, corporate size and corporate size-ownership type criteria.

Qualitative analysis

The second part of the empirical research (subchapter 3.3) in the present dissertation comprises a qualitative case study to sketch out notions of how the setup and use of governance mechanisms shapes performance in water companies under their particular (public, private, or mixed public-private) ownership structure. The qualitative governance-performance analysis aims to provide answers to research questions two to seven (RQ2–RQ7) formulated in the previous subchapter. In the context of the mixed research method, the quali-

tative case study can be viewed as the principal one, the results of which provide propositions formulated in section 3.4.6.

The case study method is defined by Yin (1984, 2009) as an empirical inquiry that investigates a phenomenon, issue or problem within its real-life context 'when the boundaries between phenomenon and context are not clearly evident.' The present dissertation is concerned with the *instrumental case study* approach, where the cases are investigated precisely because they are 'an example or instance of a problem that emerged, or is emerging from the relevant governance literature' (Stewart 2012). The focus of the present dissertation relying on the governance-performance relationship in water service provision requires a close understanding of strategies, structures, actors, formalized governance procedures, informal management practices and routines in several organizations (e.g. local government, water company) – this sort of data can be provided by an in-depth qualitative case study.

The qualitative study in this dissertation embodies primarily theory-building elements (vs. theory-testing in the preliminary quantitative study), since it aims to describe the governance practices and achieved performance regarding water services provision, and explore more generally the relationships between specific features of governance (mechanisms, actors or processes) and the (financial/non-financial) performance of water companies. Stewart (2012) suggests that a multi-case study approach is 'particularly valuable when relationships between organizational structures, management processes and outcomes are under investigation.' Therefore, the multi-case study approach is used in this dissertation, which according to Stake (2006) is a 'special effort to examine something having lots of cases, parts or members.' Like all multi-case studies in essence (Stewart 2012), the case study conducted here is also a comparative one, bringing together the differences and contrasts in water services governance from selected Estonian municipalities in order to identify and investigate relevant influencers of performance in water services. Moreover, a multi-case research approach makes it possible to use inductive methods (ibid.) to investigate the relative effectiveness of particular governance practices in the Estonian municipalities. Importantly, the evidence from a multi-case study is considered more robust, compelling and generalizable (Stavros and Westberg 2009).

The case-study research in the present dissertation, defined as descriptive and exploratory fieldwork, was conducted in two stages. At first a desk study was conducted in order to investigate relevant publicly available facts and figures on water services governance and performance in selected Estonian municipalities. In the second stage, there were a number of semi-structured interviews conducted with key governance actors involved in water services provision in these municipalities. The rationale for selecting the cases, data sources, characteristics of the interviews and interviewees will be provided in the next subchapter. However, the collected data were organized and analyzed along the process of interviewing. All interviews were tape-recorded and after

each visit, the interviews were played back, transcribed in a Word file then printed and organized chronologically into case catalogues. An open coding (Corbin and Strauss 1990) was conducted when reading the interview transcriptions and designating the meanings of sentences in relation to the theory and literature. Hence, the codes were not pre-defined and they emerged during the data analysis. To organize and analyze the case data using the open coding, the Atlas.ti software (Muhr 2004) was applied.

A significant issue in any multi-case study is the comparison between cases, or cross-case analysis (Stewart 2012). In the present dissertation, in line with Stake (2006), the process of cross-case analysis involved generating a case-ordered matrix as shown in Table 27 (p. 210-214), which established a basis for comparing the cases under a number of governance and performance features.

Finally, the general ideas of actor-network theory (ANT) (Latour 1987, 2005) are applied in writing the case narrative and interpreting the case data. Tracking interactions or following circulations is a key element in the use of ANT as a research method[23]. However, the author has not always followed the actors in the way suggested in ANT and the notion of human and non-human actors is also applied at a more general level when explaining how the setup and use of governance mechanisms shapes performance in water services provision.

2.3. Sample selection and data collection

2.3.1. Sample and data for the quantitative analysis

The sample of the quantitative efficiency study consists of 43 Estonian water companies that provide services to over 910 000 people, which accounted for 68% of the total population in Estonia (as of 31 December 2007). To the rest of the population, water services are provided by multi-utility companies, industrial production companies, agricultural firms, nonprofit organizations or directly by local government agencies (departments). This sample consists only of those water companies that do not differ substantially in the services they deliver. They all follow the same production cycle (i.e. water extraction, purification and supply, as well as sewerage collection and treatment) as revealed in Figure 12 (p. 74), which makes it possible for them to be compared against each other. However, the water companies of the sample vary across ownership dimensions. Ownership categories established in this study include public, private and mixed groups. In this context, public and private water companies are fully owned respectively either by local governments or private partners. If local governments and private partners have ownership in one and the same water company, the latter is here termed a mixed company.

[23] ANT is considered equally as a method and theory (Ritzer 2004); it is a tool to help describe something, not what is being described (Latour 2005).

Companies can be classified as small, medium or large on the basis of a number of criteria, including the number of employees, unit sales, sales revenue, real assets, production capacity, market share and so on (Grossi 2008). The work of Wallsten and Kosec (2008) is taken into account in this quantitative empirical study; in other words, the size of categories are established on the basis of the population served by the water companies. Proceeding from the principle of equal sample distribution and examples from the literature, the following criteria were set for dividing the water companies into size groups: small companies serve 501–3 300 people; medium 3 301–10 000 people; large 10 001–100 000 and very large companies provide water services to more than 100 000 people.

A panel dataset that includes information about all major water companies in Estonia from 2005 to 2007 has been used to test the effects of ownership structure and corporate size. While the precise number of water companies changed every year and there existed a certain lack of proper data, the size of the sample dataset differs slightly in the years under observation, containing 39 water companies for 2005, 40 for 2006 and 43 companies for 2007. As a sample illustration, Table 6 shows the number of water companies by ownership status and size category in 2007.

Table 6. Number of water companies in the sample in 2007

Ownership type	**Corporate size**			
	Small	Medium	Large	Very Large
Public	11	8	10	–
Private	5	4	1	–
Public-private	–	3	–	1
Total	16	15	11	1

Source: compiled by the author

The selection of the input-output variables included in the DEA model for efficiency assessment was a complicated exercise due to the limited set of non-financial input data available. It was also decided to limit attention to models that involve no more than four variables due to the degree of freedom constraints. Following Thanassoulis (2000), Coelli and Walding (2005) and Walter et al. 2009, operational expenses (OPEX) were chosen as a single input variable for the DEA model. Here OPEX, measured in thousands of euros, stands for the operational expenses of the water companies as presented in their annual income statements[24] (i.e. costs of goods sold, labour costs, other operating costs, depreciation), including also the amount of annual depreciation.

[24] In the annual reports the financial figures were provided in Estonian kroons (1 euro = 15.6466 Estonian kroons) at that time.

Coelli and Walding (2005) support the idea of using depreciation as a reasonable proxy for the aggregate quantity of capital used, if each company had a portfolio of assets with similar average asset lives. Depreciation rates used by the water companies are based on the useful life of their fixed assets; the calculations are audited by independent auditors as required by the Estonian Accounting Act.

As presented by Picazo-Tadeo et al. (2008), in this quantitative study three outputs have been considered: population served (thousands of inhabitants), drinking water produced (measured in cubic metres per day) and treated sewage (measured in thousands of cubic metres per year). Some recent papers have emphasized that significant modelling improvement in measuring the efficiency of water companies can be accomplished if both the physical volume of water services and the number of connections are considered as outputs (Garcia and Thomas 2001, Saal and Parker 2006). Unfortunately, the available dataset does not provide information about the number of connections, and the number of people served is the best available proxy. Conversely, water production and sewage treatment account directly for the volume of two of the major services provided by the companies. Table 7 below includes several descriptive statistics for the DEA input-output data from 2005 to 2007.

Table 7. DEA data description

Variable	**Measurement unit**	**Mean**	**Standard deviation**	**Min.**	**Max.**
Outputs					
Population served	Inhabitants	22 424	69 948	717	452 154
Drinking water produced	m^3 per day	3 522	11 818	78	77 530
Sewage treated	Thousands of m^3 per year	2 135	7 274	7.4	47 522
Inputs					
Operational expenses	Thousands of euro	1 505	4 017	23.5	28 451

Note: number of observations (n) = 118
Source: compiled by the author

Data on water company ownership structure and financial results were collected through the Estonian Business Registry from the annual reports of the water companies, which were all audited by independent auditors; data about drinking water production volumes and number of people serviced were requested from the Estonian Health Protection Inspectorate and data about treated sewage volumes from the Ministry of the Environment in Estonia.

2.3.2. Selection of case studies

As noted in the literature, a case does not have any objective existence and the selection of cases is guided by the research purpose (Eisenhardt 1989b, Stake 2006, Stewart 2012). Yin (2009) emphasizes that as opposed to statistical studies, a multi-case study draws on *replication* logic rather than *sampling* logic. Therefore, case selection for a multi-case study should be made so that they either predict similar results for all cases (literal replication) or provide contrary results for predictable reasons (theoretical replication). In this study, theoretical replication is used.

The present multi-case study utilizes the experiences of three water companies in different Estonian municipalities (towns) between 2000 and 2009 to interpret governance influence on performance of water services provision in practice. The main criteria for case selection were as follows: (1) the characteristics of corporate governance should be different – hence, the selected case companies have different ownership structures – public, private and mixed public-private ownership; (2) the governance efforts have to be considerable in order to provide research material for the study; therefore, the size of the water companies (number of population serviced) and the range of provided services (including only companies that follow the whole water services production cycle shown in Figure 12) were considered when making the case selection. The three case companies were also included in the preliminary quantitative efficiency study that provided some hints on potential differences in performance considerations. The key ownership and size characteristics of the selected water companies are drawn together in Table 8, which shows that with regard to size, case companies A, B and C belong to different size categories being respectively very-large, large and medium-sized companies (Wallsten and Kosec 2008).

Moreover, case companies A (mixed ownership) and B (public ownership) are the two largest water companies in Estonia and are rich in complex corporate and regulatory governance issues. However, case company A is one of the few listed water companies with international ownership in Europe.

Privately owned case company C, although significantly smaller than the other two case companies, has been actively involved in solving (through court disputes) conflicts of interests with the local government responsible for water services provision in the municipality. This provides a potentially extreme case of a performance eroding regulatory governance conflict in the Estonian water sector.

Table 8. Ownership and size characteristics of the three case companies

Characteristic	Unit	A	B	C
Ownership structure	%	35 public, 65 private	100 public	100 private
Population served	Inhabitants	405 000	99 000	4 000
Number of employees	People	320	100	10
Volume of drinking water produced	m3 per year	25 000 000	5 200 000	170 000
Volume of sewage collected	m3 per year	22 600 000	4 600 000	160 000
Length of water mains	km	910	310	21
Length of sewerage mains	km	1200	340	20

Note: the figures indicate approximate sizes in 2009
Source: compiled by the author

Finally, considering that local governments have been responsible and actively involved in water services provision in Estonia, the willingness of both the local governments and the water companies to participate in the research was important in the case selection. The names of the companies are, however, not addressed in the case narratives or the discussion in the present dissertation, since this was agreed with the interviewees.

2.3.3. Data sources and collection for case study analysis

The data were gathered from interviews, questionnaires and published materials, sector statistics, internal documents of case organizations[25] and short observations during the period from May 2010 to July 2011. Therefore, the data collection procedure included conducting interviews, completing questionnaires, collecting documents and quantitative data files as well as making some observations in an annual general meeting. The case study relies both on primary and secondary sources. As the data for analysis was collected from multiple sources, it was possible to use triangulation (e.g. compare qualitative data with quantitative data) that provided insights regarding the governance practices and increased the validity of the findings.

[25] Here and hereinafter the term 'case organizations' stands for both the water company and the local government of a case.

In the first stage of the data collection a thorough desk study was conducted in order to investigate relevant publicly available documents and materials about the case organizations, such as news articles, annual reports and articles of association for the water companies, local government strategies, annual budgets and consolidated financial reports, minutes of local government sessions and local government regulations regarding water services. The list of studied documents is provided in Appendix 3. However, internet homepages of the case companies and local governments were explored for data about their corporate governance systems, and financial and non-financial performance. These data were complemented and verified using data from the case companies' audited annual reports collected electronically through the Estonian Business Registry. Data about drinking water quality was requested directly from the Estonian Health Protection Inspectorate and data about treated sewage in the water companies was obtained from the Ministry of Environment of Estonia. Articles from the media were used as supporting evidence on the activities of the case organizations and their historical background. For case company A, listed on the stock exchange, the internet homepage of the stock exchange was explored for information on the process of going public (initial public offering – IPO) and communication with stock investors in the water company. In the second stage of the case study, the document study was supplemented by information obtained through a number of face-to-face semi-structured interviews conducted with top managers at the water companies and, politicians and senior officials directly responsible for water services provision in the local governments. The fieldwork took place in the case organizations. Table 9, summarizing the major features of the interviews, reveals that there were 13 tape-recorded interviews, which amounted to 18 hours of discussion and resulted in 285 pages of transcript made by the author.

Table 9. Case study interviews characteristics

	Case studies			**Total**
	A	**B**	**C**	
Number of interviews	6	5	2	13
Interview duration total (h)	8	6	4	18
Pages of transcript	130	95	60	285

Source: compiled by the author

Most of the interviews lasted between 1.5 and 2 hours. Interviewees were selected considering the following criteria: (1) involvement in major corporate governance relationships in the water companies (e.g. management and the board) and/or, (2) involvement in water services strategic planning, economic

regulation and performance control in the local governments, (3) work-history and experience in their respective position. The interviewees work at different management levels in their case organizations, the positions of the interviewees summarized in Table 10. The interviewees with different positions and roles in water services provision reveal a broader spectrum of stakeholder interests and opinions regarding one and the same governance issue in influencing the performance of water services provision in practice. Their participation in discussions and decision-making in the governance bodies of the water companies and/or local governments allow them to provide valuable insights into applied governance mechanisms and processes influencing the financial and non-financial performance of the water companies.

Table 10. Positions of interviewees

Case	Number of interviews	Professional positions of interviewees	
		In the water company	In the local government
Case A	2	CEO	–
	1	Member of the supervisory board	Deputy major responsible for municipal services
	1	–	CEO of the supervisory foundation over water companies
	1	–	Head of the municipal engineering services board
	1	–	Senior specialist of the municipal engineering services board
Case B	1	CEO	Member of the city council
	1	Chairman of the supervisory board	Member of the city council
	1	Voter in the annual general meeting	Deputy major responsible for municipal services
	1	Member of the supervisory board	Member of the city council
	1	–	Senior environmental specialist
Case C	1	CEO/ 50% shareholder	–
	1	–	City major

Source: compiled by the author

The average tenure of the interviewees was approximately 10 years in their case organizations, which confirms the interviewees' experience and awareness of governance practices and emerging performance issues in their organizations.

Depending on the positions of the interviewees (i.e. CEO, member of board, mayor/deputy mayor, local government specialist) and considering the findings

from the desk study, different interview guides for the semi-structured interviews were prepared. The interview guides included 20–30 main questions, which were divided into 6 sections (see Appendix 4 for a detailed interview guide) focusing on the key elements of the water service governance and performance framework of analysis in Figure 18. The interview questions rely on the previously established theoretical framework and major research questions (RQ-s).

Before each interview the interviewees were provided with a list of topics to be covered during the interview; however, they did not receive the interview questions in advance. At the beginning of each interview, the participants were asked for permission to record the interview. The interview started with some more general open-ended questions asking interviewees for their opinions regarding relevant themes before becoming more focused. However, during the interviews the order of questions remained somewhat flexible, depending on the emergent issues in the field. Four respondents, two from water companies and two from local governments, were asked to fill in a short questionnaire after the interviews, where they evaluated the importance of established financial and non-financial objectives (on a 5-point Likert scale) for their case organizations. The questionnaire (see a detailed questionnaire in Appendix 5), verifying the data collected earlier through the desk study and interviews, was used in cases A and B, where the local governments have a dual role and respectively a potential conflict of interests in the water companies. Moreover, during and/or after the field visits, some respondents were asked to provide documents and factual materials on issues discussed during the interviews, which was intended to avoid possible false interpretations. However, one field visit included a two-hour observation of an annual shareholder's meeting in case company A.

2.4. Validity and reliability

2.4.1. Validity and reliability issues of the quantitative analysis

As noted earlier in subchapter 2.2. (p. 106), the first step in the quantitative analysis about the influence of ownership and corporate size on the efficiency of Estonian water companies involves the application of DEA to obtain year-by-year efficiency scores for the sample companies. However, efficiency results from a DEA frontier are contingent on the homogeneity of the sample units (i.e. water companies) to be analyzed (Corton and Berg 2008). The homogeneity criterion implies that there are no outliers – a few extreme observations – in the sample (Banker and Chang 2006). Outliers are often caused by errors in measuring either the inputs or outputs (ibid.). Hence, detecting and removing the outliers from the sample is of vital importance, since nonparametric estimators such as DEA are sensitive to outliers. To do that in this quantitative research, Banker and Gifford's (1988) procedure for identifying outliers was applied and two observations with super-efficiency scores higher than a pre-

selected screen of 1.3 were eliminated from further analysis (Banker and Chang 2006).

In the second stage of the quantitative study, the efficiency scores from the DEA analysis were regressed using both established ownership and size variables. The concept of corporate size as such is a relative concept and companies can be classified small, medium and large based on a number of criteria (Grossi 2008). Several options for classification were considered by the authors; however, based on examples from the literature (Wallsten and Kosec 2008) and developed regulatory practice (US, Canada) corporate size was identified through 'population served.' Nevertheless, a key characteristic of a large company is its large production volume, the basis for obtaining consistent economies of scale. Therefore, the volume of produced water as an alternative size measure was also explored, but in the case of the present sample, due to a significant correlation found between the number of people served and the production volume, the production measure would have had minimal effects on the estimates when used in place of 'population served.' However, there was proceeded from the principle of equal sample distribution when dividing the water companies into size groups, which match with the ones used in some other water system surveys (Peda et al. 2011).

In regard to the estimated model in the regression analysis, the purpose of using the bootstrapping approach was two-fold: first, to obtain bias corrected estimates and the confidence intervals for DEA-efficiency scores; second, to overcome the correlation problem of the DEA-efficiency scores. DEA is a non-parametric technique, as noted in subchapter 2.2, and the use of a bootstrapping methodology helps to determine the statistical properties of the DEA estimators. Direct regression analysis would be invalid because of the dependency of the efficiency scores; hence, to overcome this problem, bootstrapped efficiency scores have been used in the regression.

2.4.2. Validity and reliability issues of the qualitative analysis

The issues of validity and reliability of the case study were tackled in the following ways in the present dissertation. To ensure external validity – that the results of the case study can be generalized to a theory and other cases in similar settings – the study focuses on companies from one and the same specific sector (i.e. water services sector). In order to allow for generalization from one case to another, thorough case descriptions (narratives) were written without tending to the author's own explanations. To confirm the theoretical generalizations in the present multi-case study, the results are replicated (Yin 2009) in three water companies with different (public, private and mixed public-private) ownership structures. However, the three selected case studies were analyzed based on a common theoretical framework established before data collection. This increases external validity and makes it possible to prove or reject the theoretical expectations regarding governance-performance relationships in water

services provision. To provide traction to the three cases, their structure is built to reflect the 'theoretically shaped analytical framework related to governance' (Stewart 2012) as shown in Figure 18.

In the context of governance research, Stewart (2012) argues that multi-case researchers dealing with issues of casual inference can overcome the often criticized 'lack of tightness' (see King et al. 1994), if they consider the case study 'as a kind of natural experiment, and the experiment is well chosen in relation to the problem of interest.' Then one can say that in similar circumstances he/she can be reasonably sure that 'a similar outcome will occur' (Stewart 2012). Hence, the results are generalizable to theoretical propositions, where the generalizability is reached through the process of abstraction (Yin 2009). The present multi-case study uses the rhetoric of contextual generalization, which according to Lukka and Kasanen (1995) rests on 'a meaningful and convincing connection of the study with the real-world phenomena surrounding the case in question.' To generate good results and create a better understanding of the governance and performance relationship, the author of the present study used 'an iterative data-theory-data-theory path' (Stewart 2012).

To ensure construct validity and avoid subjective interpretation of the evidence, multiple data sources are used in all three cases as suggested by Yin (2003). The results from different sources (e.g. from interviews with different respondents, documents, reports, news articles etc.) were compared and data triangulation as a validity procedure (Creswell and Miller 2000) was conducted. The data triangulation provides stronger support for inferences about causal relationships (Denzin 1978) of how certain governance features lead to performance influencing consequences as summarized in Table 27. Moreover, thorough descriptions of the particular context increase the internal validity regarding causality between the governance features and aspects of performance for the water companies in the present study. To mitigate the risk of being misled by the interviewee or the author's false interpretation of the interview data, probing questions were asked from the interviewee and the same research issues were discussed with him/her from different angles during the interview. Moreover, to verify the data, the same issues were discussed later with other interviewees.

To ensure the reliability of the case study – that the research can be replicated by other researchers – Yin (2009) suggests creating a case study database and to map the research trail. Therefore, in the present qualitative research, for each of the three case studies, an electronic and a hard copy data catalogue were established, where data from all documented data sources were gathered. Hard copy documents, such as document print-outs, printed articles and annual reports were systematized in hard copy folders, while all electronic data files in different formats were organized in the Atlas.ti software. To be able to track back through the research process, an electronic research protocol was established by the author. This protocol includes notes on actions and emerging questions and issues as well as interim inferences regarding the different

research stages. The research procedures in the field were consistent across the case organizations (i.e. water companies and local governments). The prepared semi-structured interviews were tape-recorded and transcriptions made immediately after each field visit by the author. The data collected during the field visits (i.e. interview transcriptions, notes and documents) were organized in the database and analyzed to compare them with each other and evidence from previously collected materials.

3. EMPIRICAL STUDIES ON THE INFLUENCE OF GOVERNANCE ON THE PERFORMANCE OF WATER SERVICES PROVISION IN ESTONIA

3.1. Overview of the Estonian water services sector

Estonia, with a total population of approximately 1.32 million and total area of 45 227 km^2, is located on the east coast of the Baltic Sea and is one of the smallest countries in the EU. During the period under study 2000–2009, Estonia has passed both a period of fast economic growth and a period of deep recession. Estonia experienced one of the highest economic growth rates among both transition and OECD countries from 2000–2007, with an average annual rate of real GDP growth of 8.3% (OECD 2011d). In the years of economic boom particularly the construction industry experienced a remarkable upswing – the construction volume index increased 19% in 2005 and 29% in 2006 annually in Estonia. As a result of the high economic growth, Estonia converged rapidly to the income of levels of the EU average (OECD 2009); nevertheless, GDP per capita was still at a level of 64% of the EU27 average in 2009 (Statistics Estonia 2011). Also inflation remained relatively high until the arrival of the economic crisis and yet in 2008 the consumer price index (CPI) rose by 10.6% in Estonia (OECD 2009). However, Estonia was one of the fist countries in the EU hit by the global financial and economic crisis in 2008. Solid economic growth in previous years was suddenly replaced with a dramatic economic downturn (–5.1%) in 2008 and (–13.8%) in 2009 (Jõgiste et al. 2012), which affected revenues both in private and public sector entities. Considering the Estonia's general macroeconomic context during the studied period 2000–2009, becomes relevant when exploring (subchapter 3.3.) how the setup of particular governance mechanisms has influenced the financial performance of the case companies.

3.1.1. Operational framework

In Estonia there are sufficient reserves of freshwater available (8 600 m^3 per capita per year) and the water exploitation index remains at a relatively low 4%, indicating that no water scarcity is to be expected in the years ahead (Banhard 2001, Puhas vesi…2010). Water is abstracted for different purposes: public supply, industrial production, cooling water for energy production, agricultural activities and mining activities. In most of the Estonian settlements the water needs are met by groundwater; however in two large towns, as well as by several industrial companies, surface water is mostly used (ibid.).

Approximately 84% of the Estonian population is connected to the central water supply (Birk 2008) and 75% to the central sewerage system (Niine et al. 2008). Due to increasing water prices and more accurate measurement of water

usage, domestic water consumption has declined from 187 litres per person per day in 1991 to approximately 100 litres per person per day at present in areas where a public water and sewerage network is available (Hukka 2004, Vee ja kanalisatsiooniteenuste…2010). With this figure Estonia lags behind most EU countries, where average daily water consumption per capita stands at approximately 150 litres (UNDEP/DEWA…2004, Executive Summary 2010).

There is a relatively large number of small waterworks within the Estonian water supply sector. Of the 1 235 waterworks operating in 2007, only 21 produced drinking water volumes greater than 1000 m^3 per day, but these nevertheless supplied 61% of the Estonian population. At the same time, 1 099 waterworks or 89% of the total produced less than 100 m^3 a day (Birk 2008). In total there are more than 200 companies either directly or indirectly related to water and sewerage services provision (Balslev Nielsen and Hoffmann 2003). The large number of water companies can be seen as a reflection of Estonia's highly fragmented administrative territorial division: 193 rural municipalities and 33 cities, with fewer than 2 000 inhabitants in more than half of the municipalities (Ignatov 2004, Kohalik omavalitsus…2010). Like the municipalities, water companies differ widely in terms of corporate size; the largest providing services to more than 400 000 people, and the smallest companies only several hundred.

In the mid-1990s, ownership of the former state owned water supply and wastewater facilities was transferred to local government bodies that became responsible for the provision of water and sewerage services. After the enactment of the Commercial Code in 1995, most of the municipal water utilities were transformed into public limited companies owned by local government (Hukka 2004). Today water services in 90% of Estonian cities (i.e. regional centres) are also still provided by fully publicly owned water companies. However, in the smaller towns and rural municipalities, there also exist other provision modes such as specialised water companies with mixed (public and private) ownership, production delegated to private companies or direct production by local government agencies (departments). The capital city of Tallinn is a different case; it sold the majority of shares in its water services company to international partners and later listed its shares on the stock exchange (NASDAQ OMX 2012)[26].

In addition to combined water and sewerage companies, there are also companies which solely specialise in water supply. In some municipalities, furthermore, water services are produced by multi-utility companies responsible for heating and other services as well. In addition, some industrial production companies, agricultural firms and nonprofit organizations provide water supply services in some districts of the country. Both the quantitative and qualitative study of this dissertation consists only of the combined water and sewerage

[26] Vinnari, E.M. and Hukka, J.J. (2007) provide an insight into the water company privatisation in Tallinn.

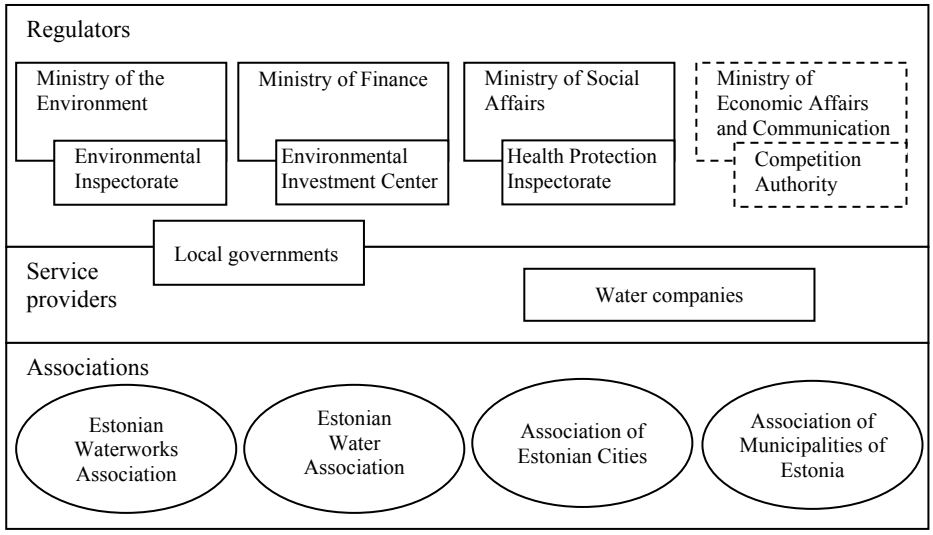
companies that all follow the same production cycle (i.e. water extraction, purification and supply, as well as sewerage collection and treatment).

In Estonia, both publicly and privately owned water companies are private-law-based profit-oriented legal entities and operate either in the form of private liability (*osaühing*) or public limited companies (*aktsiaselts*) (Commercial Code 2009). Estonian corporate governance structures – as they apply to companies – are characterized by a two-tier system following the German model. According to this dualistic model, aside from the shareholders assembly, each company usually consists of a supervisory board[27] and management (executive) board (Grossi and Reichard 2008). The supervisory board decides on the strategic issues of the company, oversees the company's activities and usually nominates the CEO or management board. The size of the management board is not determined by the Commercial Code; it may also consist of a single individual – the CEO. The management board as the executive body of the company directs and represents the company. However, the management board has to follow the instructions of the supervisory board and needs its approval for transaction beyond regular economic activities (OECD 2011b). The supervisory board is the representative body of the shareholders; however the members of the supervisory board do not need to be the shareholders. The supervisory board can range from a minimum of 3 to a maximum of 10 competent members, who are not allowed to be members of the management board and *vice versa* under the Commercial Code (2009). The representation of the local government as the owner within the companies' governance bodies in Estonia is identical to that of other owners, with the number of votes generally proportional to its capital input within the company.

3.1.2. Regulatory framework

The overall regulation of water services in Estonia involves multiple public authorities, as shown in Figure 20, that are focused on the issues of the use of water sources, quality of drinking water, wastewater treatment quality, organization of water services provision and price control. On the highest level of the water services regulatory framework, legislation is prepared by the ministries and adopted by the parliament *Riigikogu* in Estonia. As a member of the EU from 2004, Estonia has to align its water sector legislation with respective EU directives and policies. However, due to the investment needs, Estonia during the accession negotiations was allowed to get complied with the EU water and wastewater requirements step-by-step as follows: the Urban Waste Water Directive (91/271/EEC) by the end of 2010, the Drinking Water Directive (98/83/EEC) by the end of 2013 and the Water Framework Directive (2000/60/EU) by 2015 (Reoveekäitluse arendamine…2007).

[27] According to the Commercial Code (2009), private limited companies with share capital less than 25 560 euro are not required to form a supervisory board.



Note: institutions in the dotted-line box were not involved in water services governance during the observed period of this study.

Figure 20. Institutional structure of water services governance in Estonia (source: compiled by the author)

Differently from the centrally organized water quality and environmental control (i.e. Health Protection Inspectorate and Environmental Inspectorate in Figure 20), the economic regulation of Estonian water companies was primarily left to local governments to arrange under stipulations within the national laws until 2010. The functions of local government included the organization of water and sewerage supply in its municipality, i.e. the rural municipality or city (Local Government…2010). The Public Water Supply and Sewerage Act 1999 stipulated the rights and obligations of the state, local governments, water companies and clients. This was the main instrument for regulating relations between the water user and the water company, stating that public water supply and sewerage systems can be owned by a public or private entity, but in either case the water company has to ensure sufficient water supply and sanitation services (Public Water… 2010).

Local governments are entitled to appoint a water company and approve its service area, or licensed territory, for water services provision. In its licensed territory the water company should ensure the functioning and maintenance of the public water supply and sewerage system. The water and sewerage system should be developed and constructed based on a public water supply and sewerage system development plan established by the local government for a period of at least 12 years (Public Water…2010). This development plan constitutes the primary long-term planning document for local government concerning

water services, and it is a requirement to include a time schedule and budget estimate for future (infrastructure) developments.

Water services are delivered to water users (clients) based on a contract signed with the water company. Water sold from the public water supply should be measured using water meters, assuming the water company and the client have not agreed on any other method. The Public Water Supply and Sewerage Act and local government procedures together regulated the establishment of water prices. The act stipulated that local government establishes the prices based on a proposal received from the water company. In practice the price of water was usually established in cooperation between the local government and the water company (Banhard 2001). However the same Public Water Supply and Sewerage Act stipulated that the price for water supply and wastewater discharge services must be established so that the water company could: 1) cover production costs, 2) comply with quality and safety requirements, 3) comply with environmental protection requirements, and 4) operate with justified profitability. Also the water price could not be discriminatory with regard to different clients or client groups of the water companies (Public Water…2010).

As such the Public Water Supply and Sewerage Act being the main regulatory instrument of water services provision in Estonia, was only lax framework legislation, and did not provide any guidelines or give reference to any methodical approach for local governments on water costing or 'justified' profitability calculations to follow when establishing water prices (Peda et al. 2011). Moreover, in Estonian municipalities, in order to meet the requirements of EU directives on water quality and environmental control (namely 98/83 EU, 91/271/EEC), there were extensive investments of 1.13 billion euro needed for the modernisation of the water and sewerage treatment systems over the period 2007–2013 (Reoveekäitluse arendamine…2007). In this context the water users in Estonia faced rapid price increases – from the middle of 2007 to the end of 2009 the average price for water services for private individuals increased by 27% in Estonia (Veehind 2010). In the end of 2009 the average price for water and wastewater was 2.01 euro/m^3 for private individuals and 2.39 euro/m^3 for legal entities in Estonia. Even if most of the necessary funding to Estonian municipalities comes from EU support funds, the need to cover concurrent costs is likely to further fuel price increases in the years ahead (Peda et al. 2011).

Yet, not all water companies in Estonia could qualify for using EU support funds for the renovation and construction of their infrastructure. Those who qualified to use the EU support for these investments and those who did not, was based on ownership and size criteria. Firstly, the EU support was not applicable to water companies with a majority private ownership in Estonia (Avatud voorud 2010). Secondly, in small Estonian municipalities, the water companies had difficulties guaranteeing the required self-financing for EU financed development projects (Reoveekäitluse arendamine…2007), which had become a barrier for infrastructure renovation (Peda et al. 2011). Hence tight

budgets have restricted water companies' access to capital (Mygind 2000/2001), whilst greater capitalization of water companies has allowed for greater leverage and better financing conditions for investments (Grossi 2008) in Estonia.

The first step in tightening economic regulation of water companies in state level was made in 2010, when the *Riigikogu* adopted the Establishment of Price Restrictions on Monopolies Act (Monopolidele hinnapiirangute…2010) to counter monopolistic powers of the water companies. This change, however, remained beyond the period of time studied in the present dissertation. Nevertheless, according to the new act, water prices and profitability of the water companies (except the small ones) are regulated centrally by the Estonian Competition Authority under the same rules in the country now[28].

Finally, in Figure 20, the associations depicted down there, represent the interests of particular interests groups such as the water companies, organized citizens with interests in water issues or local governments. The interest groups have been involved in enhancing the professional knowledge of their members and representing their interests in the legislative processes related to water and water services.

To sum up, in the studied period from 2000 to 2009 the Estonian water companies operated in a changing economic environment. Irrespective of the ownership structure, the water companies have provided water services in their designated areas as profit oriented business entities being subjects to local government sectoral strategies and economic regulations. Moreover, the Estonian water companies have been required to invest heavily into their water infrastructure in order to comply with the EU directives on water quality and environmental control. In the light of that, of importance to this research is the recognition that there was missing a strict centrally applied economic regulation of water companies to control water prices and monopoly profits in Estonia. Therefore, it can be assumed that there exists a variety of governance practices with different performance incentives and trade-offs in the highly fragmented Estonian water sector.

3.2. Quantitative study of the influence of ownership and size on efficiency of Estonian water companies

The question as to what is the most efficient form of ownership has long been debated in economics and a number of empirical studies comparing privately and publicly owned water company efficiency levels provide divergent results and are far from conclusive (see Table 5, p. 95). Yet, water companies, being

[28] Starting from 1 November 2010, all Estonian water companies operating in wastewater collection areas with a waste load of more than 2 000 population equivalents are obliged to present their price proposals to the Estonian Competition Authority for approval. By that time the Competition Authority was required to work out initial principles of price calculation for the water companies (Monopolidele hinnapiirangute…2010).

natural monopolies, are expected to obtain consistent economies of scale at large production capacities (Abbot and Cohen 2009) as discussed in subchapter 1.3.1, which rather advocates establishing large companies to improve efficiency (Kim 1987, Kahn 1988). However, the theoretical approaches discussed in subchapter 1.1.2 provided different insights and explanations for the performance gaps regarding water services provision.

In this subchapter the results of the quantitative efficiency analysis will be presented and the answer to the first research question (RQ1) will be provided. As it was noted in subchapter 2.2, throughout this analysis the efficiency scores computed under both the variable returns to scale (VRS) and the constant return to scale (CRS) assumptions were used. Efficiency under CRS was deemed to be overall efficiency, as it can be deconstructed into two components, VRS and scale efficiency (SE), providing an insight into the source of inefficiencies. VRS, also known as 'pure efficiency', has its boundary within CRS and reflects the managerial ability to organize inputs in the production process (Thanassoulis 2000). The ratio of these two efficiency measures (CRS/VRS) shows the scale impact on efficiency for each company (SE). However, Table 11 shows summary results for both the original first-stage input saving DEA efficiency scores and bootstrapped scores across the sample of water companies (see a full list of the scores across water companies and years is in Appendix 6). The presented scores are calculated after detecting outliers and removing them from further analysis.

Table 11. Mean efficiency scores using a bootstrap

Year	Technology	Original efficiency	Bootstrap bias	Bias-corrected efficiency
2005	VRS	0.6956 (13.15)	0.0898	0.6058
	CRS	0.6311 (10.53)	0.0989	0.5323
2006	VRS	0.6762 (15.38)	0.0897	0.5865
	CRS	0.6352 (10.25)	0.0877	0.5475
2007	VRS	0.7012 (14.63)	0.0867	0.6145
	CRS	0.6187 (9.76)	0.0925	0.5262
2005–2007	VRS	0.6912 (15.25)	0.0888	0.6024
	CRS	0.6281 (10.17)	0.0929	0.5352

Note: i. after outlier removal the number of observations is 38 in 2005, 39 in 2006, 41 in 2007 and 118 in 2005–2007; ii. the value in parentheses shows the percentage of companies with original efficiency score of unity.
Source: compiled by the author

Table 11 reveals that Estonian water companies operate at a relatively low average efficiency level. In the period 2005–2007, the bootstrapped mean efficiency score under VRS technology stood at only 60.2%, which means that on average the water companies could have reduced their operating costs by 39.8% whilst maintaining their output volume at the same level. In the case of the CRS approach, the average inefficiency is 46.5%. When comparing the efficiency scores on the basis of single years, no significant difference in means can be ascertained. These average DEA scores are similar to results for East Germany, where the mean pure efficiency was found to be 0.64 (Zchille et al. 2009), but remarkably lower than the 0.90 value for Australian water utilities (Coelli and Walding 2005) or 0.81–0.92 recorded for urban water utilities in Spain (García-Valiñas and Muñiz 2007). The mean scale efficiency score (SE) between 2005–2007 was 0.89, indicating that the average company should be able to reduce input use per unit of output by 11% if it is able to change its scale of operation.

The effects of ownership form and corporate size

In the second stage of the two-stage model, a truncated regression model has been formulated to control for ownership and corporate size effects on both pure (VRS) and overall (CRS) efficiency. However, space constraints mean that the detailed results below are reported only on the effects of VRS scores in Tables 12 and 13, as ownership and corporate size do not have contradictory effects on the CRS scores.

First, there are two types of independent variable specified that will be used without interaction in the regression model: ownership form (public, private, mixed) and corporate size (small, medium, large, very large). This will generate seven dummy variables with value 0 or 1 to be incorporated into the model. The public ownership form and small corporate size are characteristic of most of the sample water companies, and therefore, are used as references, which will be omitted from the regression. Table 12 below shows the bootstrap coefficient estimates resulting for the truncated regression model.

Table 12. Parameter estimates categorized by size and ownership

VRS Efficiency	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Medium	.1227524	.0450461	2.73	0.006	.0344637	.2110412
Large	.1822957	.0497026	3.67	0.000	.0848804	.2797111
Very Large	.2225975	.1643111	1.35	0.176	–.0994465	.5446414
Private	.0388864	.0448520	0.87	0.386	–.0490219	.1267947
Mixed	.0696219	.0921148	0.76	0.450	–.1109198	.2501635
_Cons	.5043394	.0332476	15.17	0.000	.4391753	.5695036
/Sigma	.1864625	.0151700	12.29	0.000	.1567299	.2161951

Note: Log likelihood = 41.482511; Number of obs. = 118; Wald chi2 (5) =18.25; Prob.>chi2=0.0026

The regression coefficients in Table 12 indicate that the size variables "Medium" and "Large" have a positive effect (sig. 0.05) on water company ciency. Thus, efficiency improves if corporate size increases from small to medium or large. However, private and mixed ownership forms do not have a statistically significant effect on water utility VRS and CRS efficiency. These results reveal that there is no confidence at a 95% level that any given ownership form will be associated with a higher or lower efficiency level.

The regression results presented above do not allow the comparison of ownership types within established size categories. To do so, the same truncated regression will be estimated with ownership and size interaction effects. The "Small_Public" interaction variable is used as a reference and is omitted from the regression. Table 13 below shows the results of estimating the equation with the interaction terms.

Table 13. Parameter estimates according to size and ownership interactions

VRS Efficiency	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Small_Private	.1513417	.0585006	2.59	0.010	.0366826	.2660008
Medium_Public	.1926483	.0515110	3.74	0.000	.0916887	.2936079
Medium_Private	.1101252	.0707832	1.56	0.120	–.0286073	.2488577
Medium_Mixed	.2291532	.0878479	2.61	0.009	.0569744	.4013319
Large_Public	.2353010	.0521071	4.52	0.000	.1331730	.3374290
Large_Private	.1201991	.1125985	1.07	0.286	–.1004899	.3408881
Very L._Mixed	.3258042	.1305213	2.50	0.013	.0699872	.5816212
_Cons	.4637761	.0346894	13.37	0.000	.3957860	.5317661
/Sigma	.1788765	.0142896	12.52	0.000	.1508695	.2068835

Note: Log likelihood = 45.508007; Number of obs. = 118; Wald chi2 (7) =27.36, Prob.>chi2=0.0003

The positive regression coefficient of the "Small_Private" variable in Table 13 suggests that small privately owned water companies are likely to be more efficient (sig. 0.05) than publicly owned companies in the same size category. This result is consistent with the findings of Bhattacharyya et al. (1995) that small privately owned companies outperform publicly owned companies of a similar size. The results in Table 13 also reveal that large and medium-sized publicly owned companies and very large and medium-sized companies with mixed ownership are likely to have a higher efficiency score than small publicly owned water companies. This does not hold for large and medium-sized private companies that in all likelihood do not outperform small publicly owned utilities either at 5% or 10% significance levels.

In order to shed some light on the differences in the mean of efficiency between established size and ownership categories, a series of one-way ANOVA

and Bonferroni multiple comparison tests were conducted. Table 14 below summarizes the results of the analysis, reporting only statistically significant differences between the established comparison groups. First, the results presented in the third column of Table 14 show that there is no significant difference (sig. 0.05) in mean efficiency between water companies with different ownership forms. However, at a 10% significance level the companies with mixed ownership showed a higher mean efficiency than publicly owned companies. Secondly, as shown in the fourth column in the comparison between size groups, the small water companies demonstrated a significantly lower mean than the peers of medium and large categories, which is consistent with the regression results. Between other size categories, no statistically significant difference of one group outperforming others was found.

Table 14. Results of Bonferroni multiple efficiency comparisons

Variable	**ANOVA statistics**	**Ownership form comparison**	**Size comparison**	**Size-ownership form comparison**
VRS efficiency	F-stat: p-value: Significant differences:	1.314 0.273 –	5.903 0.001 Sml<Med; Sml<Lrg	3.997 0.001 Sml_Pub<Med_Pub; Sml_Pub<Lrg_Pub
CRS efficiency	F-stat: p-value: Significant differences:	2.779 0.066 Pub<Mix [a)]	5.053 0.003 Sml<Med; Sml<Lrg	5.394 0.000 Sml_Pub<Sml_Priv; Sml_Pub<Med_Pub; Sml_Pub<Med_Mix; Sml_Pub<Lrg_Pub; Sml_Pub<Very_Lrg_Mix [a)]

Note: i. [a)] significant at 10% level; ii. Sml=small, Med=medium, Lrg=large, Very_Lrg=Very large, Pub=publicly owned, Priv=privately owned, Mix=mixed ownership; number of observations (n) = 118.
Source: compiled by the author

The final column in Table 14 reveals that the only size-ownership group that has a lower mean efficiency when compared with other peer groups is the "small-public" category. "Small" is the only size category where a significant difference between different ownership forms (Sml_Pub<Sml_Priv) in mean efficiency exists. While this difference becomes apparent under CRS technology, the inefficiency is partly caused by the relatively smaller size of publicly owned water utilities (0.84 SE) compared with the private companies (0.93 SE).

Another noteworthy finding that is not presented in Table 14 is that small private companies also outperform small publicly owned companies when using the VRS approach, although this is not statistically significant. The difference

between the means of efficiency was 14.3% for the "small-private" group. The opposite resulted within medium and large categories, where publicly owned water companies show 7.5% and 10.1% higher mean efficiencies respectively than their private peers under VRS. Comparing overall efficiency within medium and large-sized groups, the differences in means are even greater: 13.1% and 19.7% respectively in favour of publicly owned companies.

In the light of the theoretical framework from subchapter 2.1, the remainder of the current subchapter focuses on discussing the results and exploring the possible reasons behind the differences in the computed efficiency scores. As previously noted in subchapter 2.3.1 (p. 109), the explored Estonian local governments do not provide public water supply services directly, but through legally distinct business entities, i.e. water companies. A practical governance question for the local governments concerns the decisions they can make on private versus public production (privatisation) and/or potential mergers of water companies (cooperation) in order to lower costs and improve the efficiency of water service production (Peda et al. 2011). However, before discussing the ownership and size effects, it must be noted that as the results of the efficiency analysis in Table 11 reveal, the Estonian water companies exhibit relatively low operational (technical) efficiency – an average pure (VRS) efficiency of 60.2% from 2005 to 2007 indicates that there is a lot of room (approx. 40%) for efficiency improvements in the companies at their current production volumes. This is in line with the theoretical expectations of the traditional economic model of monopoly and empirical survey results of regulatory effects on water utility performance (Parker 2003, Saal et al. 2007, Abbott and Cohen 2009), which advocate the implementation of tight economic regulation to ensure efficient water services provision.

However, answering to the **first research question (RQ1)** – is there a significant difference in efficiency between the water companies with public, private and mixed public-private ownership – the results presented in Tables 12 and 14 indicate that none of the given ownership forms (public, private, mixed at 95% confidence) can be associated with a greater or lower efficiency level across the whole sample. This supports the views of transaction cost and industrial organization theory, that there is no significant difference in efficiency between water companies with differing types of ownership. Hence, the arguments of property rights and public choice theories cannot be confirmed in the case of Estonian water companies. The results do not support the theoretical expectations of the existence of relatively less efficient behaviour in publicly owned companies. One explanation for this, is that in response to the lack of strict centrally applied economic regulations, locally various incentive programmes have been established which do not necessarily provide *per se* less incentives for cost saving in publicly-owned companies. This will be argued further in the coming parts of the current discussion.

Transaction cost and industrial organization theory appear more useful in explaining why there is no significant difference in efficiency between publicly

and privately-owned water companies in Estonia, since both take into account the market structure and the nature of the services; that is, that water companies, irrespective of their ownership form, are natural monopolies with some industry-specific characteristics (Hukka and Katko 2003) that without regulation tend towards inefficiencies. The results of efficiency analysis support theoretical expectations stemming from transaction cost theory grounded in the idea that private sector participation in water services provision is associated with relatively higher transaction costs, which erode possible efficiency gains related to private compared to public provision.

The study sample also included a small number (i.e. 10%) of water companies with mixed public-private ownership (see Table 6). Despite the fact that the difference is not statistically significant, the water companies with mixed ownership have the highest average pure efficiency at 0.70, while for both the solely privately and solely publicly owned companies, the figure is less 0.59. In terms of efficiency, this result does not to support the opinion that mixed ownership includes the worst qualities of public and private ownership (Vining and Boardman 2008). However, the Estonian water companies with mixed ownership are still far from the efficiency frontier.

Yet, as revealed in Table 7, there is a remarkable difference in the production volumes of the smallest and largest water company in the sample. Based on the theory of natural monopoly and assuming the presence of economies of scale, large water companies should operate at higher efficiency than small water companies. Results from Tables 12 and 14 confirm this position, showing that on average small water companies are significantly (sig. 0.05) less efficient than those of a medium or large size. It is worth noting even if the differences are statistically not significant, that the only very large water company from the sample presents an efficiency of 0.75 under the VRS approach, which is higher than the average efficiency of the small (0.52), medium (0.63) or large (0.67) categories.

As it was described in subchapter 3.1.1 (p. 121), the large number of water suppliers with small production volumes is endemic in Estonia. The average scale efficiency of the small companies (0.88) proceeding from their CRS and VRS values indicates that efficiency could be improved by a margin of 12% if the companies, mostly operating with increasing returns to scale, could operate at their optimal size. In comparison, the very large water company has a scale efficiency of 0.96. Thus, it could be argued that the establishment of larger water companies through mergers or aggregation agreements between small water companies should be considered as an option by local governments in order to benefit from scale effects. However, it is remains outside scope of this dissertation to conclude exactly which water companies and from what kind of scale economies – capital equipment or ordinary business operations (Shih et al. 2006) – would be most beneficial in Estonia.

Finally, the influence of ownership on efficiency was assessed within the established size categories in the quantitative research. The results presented in

Tables 13 and 14 show that the interaction of size and ownership has diverse effects on efficiency in water companies and again do not confirm the views of property rights and public choice theories that private companies are unequivocally more efficient than publicly owned companies. In this context, public choice and property rights theories tend to remain too rigid (emphasizing the goals of bureaucrats, managers and owners) and do not capture the sector specifics (e.g. the lack of competition).

To sum up the results of the quantitative analysis of panel data, it can be argued that private production *per se* is not unequivocally more efficient than public in Estonia, where centrally applied incentives for efficiency improvement are missing. However, the efficiency of Estonian water companies increases with their size. Moreover, it was noted earlier in subsection 1.3.1 that efficiency can be stated in technical terms or in economic terms, the former being a necessary condition for the latter (Herce 2004). In Table 15 the results of a linear correlation analysis reveal that there are positive and significant; however somewhat weak relationships between the average technical efficiency and net profit margin (return on sales) of water companies in the sample.

Table 15. Results of the analysis on correlation between efficiency and profitability of water companies

	Mean VRS efficiency 2005–2007	**Mean CRS efficiency 2005–2007**
Mean net profit margin 2005–2007	0.386 (0.010)	0.342 (0.025)

Note: the value in parentheses shows the level of significance; number of observations (n) = 118.
Source: author's calculations on the basis of research sample

Finally, in order to shed some light on the differences in the mean of net profit margin between established size and ownership categories, a series of one-way ANOVA and Bonferroni multiple comparison tests were conducted too. Table 16 below summarizes the results of the analysis, reporting only statistically significant differences between the established comparison groups (see Appendix 7 for descriptives of the mean of profitability). The results reveal that there is no significant difference (sig. 0.05) in mean profitability, like there was not it in efficiency, between water companies with different ownership forms.

However, results from Table 16 (in the third column) show that on average the only very large water company in the sample is significantly more profitable than small-, medium- or large-sized water companies. Moreover, the same water company with mixed public-private ownership, as revealed in the final column of Table 16, is also relatively more profitable than small- and large-sized publicly owned companies in average. Yet, interestingly medium- and large-sized water companies are not relatively more profitable than small-sized

water companies in the sample, even though they were relatively more efficient as shown in Table 14. Therefore, in order to shed some light from the perspectives of corporate and regulatory governance on the reasons behind the similarities and differences in the performance of water companies with different ownership structure, the multi-case study research follows.

Table 16. Results of Bonferroni multiple profitability comparisons

Variable	ANOVA Statistics	Ownership form comparison	Size comparison	Size-ownership form comparison
Net profit margin	F-stat: p-value: Significant differences:	1.816 0.167 –	5.906 0.001 Sml <Very_Lrg Med<Very_Lrg Lrg < Very_Lrg	2.894 0.008 Sml_Pub<Very_Mix Lrg_Pub<Very_Mix

Note: Sml=small, Med=medium, Lrg=large, Very_Lrg=Very large, Pub=publicly owned, Priv=privately owned, Mix=mixed ownership; number of observations (n) = 118.
Source: compiled by the author

3.3. Case study research of the influence of governance on performance in water services provision

3.3.1. Case A

Corporate governance structure and key actors

Case company A was registered in 1997 as a public limited company with all shares belonging to the local government (hereafter 'city government'). In January 2001, the city government sold 50.4% of its shares in company A to international private investors in order to secure investment funds to modernise the water infrastructure. All water and sewerage infrastructure assets (i.e. main networks, water purification station and wastewater treatment plant) necessary for water services provision in its service area belonged to company A.

After the privatisation, with the inclusion in the ownership structure of a joint venture of two water multinationals the city government became the minority shareholder. In December 2003 one of the two water multinationals, jointly with an international financial institution, acquired the shareholding of its partner in their joint venture company (hereafter called 'dominant shareholder') established for the privatisation. Subsequently in 2004, the shareholders of company A decided to organize an international initial public offering (IPO) of shares in their water company[29]. Since 2005, the shares of

[29] The IPO was highly successful – the shares offered were six times oversubscribed.

company A have been listed on the stock exchange and freely tradable. The ownership structure of company A is presented in Figure 21.

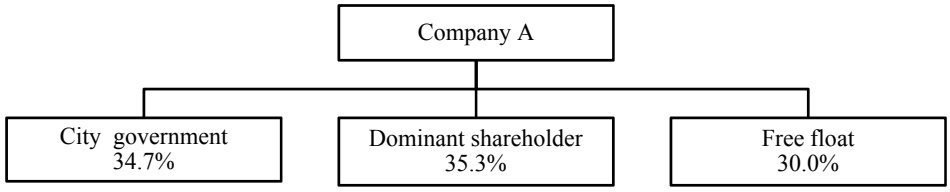


Figure 21. Shareholding structure of company A (source: compiled by the author)

Operating as a public limited company, the following corporate governance bodies are established in company A: the shareholders assembly, supervisory board and management board as depicted in Figure 22.

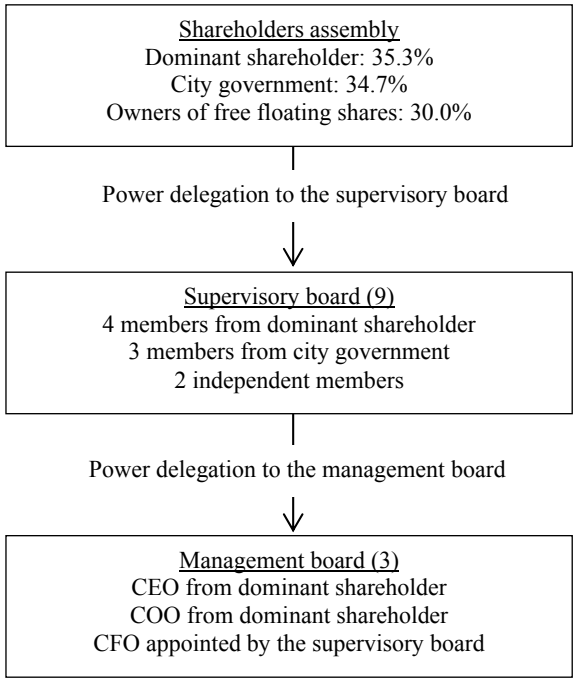


Figure 22. Control delegation in company A (source: compiled by the author)

The dominant shareholder of company A has been controlled by a publicly listed multinational British water company.

The second largest shareholder in company A, the city government, has been headed by mayors from a centre-left political party, except for the short period

from October 2004 – November 2005. The representatives of this political party in the city council voted against the privatisation of company A at the end of 2000, before they came to power in December 2001. The city government consists of a mayor and six deputy majors, one deputy mayor responsible for the governance of municipal engineering services including water and sanitation. Since April 2007, the duties of the deputy mayor were performed by a member of the ruling party with a bachelor's degree in law studies. He had started his political career in 2005 as a member of city council while working as a consultant in a private business. After becoming the deputy mayor of municipal engineering services (at age 27), he was nominated as supervisory board member by the city government.

The shareholder's agreement provides that the dominant shareholder shall have operational control over company A. The management board of company A has been composed of either three or four members from 2001 through 2009, all or the majority of them seconded by the dominant shareholder[30], and all of them appointed by the supervisory board. The working hours, rates of compensation, manner of performance and all other matters relating to the employment of the individuals seconded by the dominant shareholder (e.g. CEO, Chief Operating Officer – COO), are determined solely by the dominant shareholder, the supervisory board not reviewing the principles for the remuneration of those management board members. The CEO and chairman of the management board took office in 2008, before working as chief commercial officer in company A between 2004 and 2007. He has over 15 years experience in a variety of financial roles internationally within the utilities sector (e.g. in the UK). The other expatriated management board member, the COO, joined company A in 2006. He has extensive experience in the water business both in Europe and overseas with major experience in capital investment programme management, water and wastewater process engineering and operations. The third member of the management board and the Chief Financial Officer (CFO) is an Estonian not seconded by the dominant shareholder and has more than 14 years experience in company A at several levels within the finance department. The management board represents the company in its relations with third parties and is instructed by the supervisory board.

Board composition and functional emphasis

Pursuant to the articles of association from 2005, the supervisory board of company A consists of nine members, whose term lasts two years. On agreement from the shareholders, the city government and the dominant shareholder

[30] The articles of association state that the management board of company A consists of two to five members, elected for three years. According to a technical services agreement between company A and its international dominant shareholder, the latter provides certain management personnel for a certain fee to the water company.

agreed that the seats shall be divided such that the dominant shareholder shall have four seats, city government three seats and two seats shall be for independent members of the supervisory board (see Figure 22) as required by the stock exchange rules[31]. Five members of the supervisory board are elected at the shareholders' general meeting; two members are appointed by the city government and two appointed by the dominant shareholder.

The chairmen of the supervisory board in company A is nominated by the UK water multinational (dominant shareholder). The chairman was elected to this position in 2006 after working as the CEO of company A for more than four years. He has over 25 years experience in senior management positions in the water industry both in England and overseas. Over the years, the two members appointed by the dominant shareholder have all worked in managerial positions at the parent UK-based water multinational and possess a financial, legal or engineering background. The CEO of company A describes their main focus on the supervisory board:

> "They, like the independents, are looking to grow the business and ensure we can mitigate the risks the best we can. Really! Minimize the impact of any risks to the company."

The fourth seat held by the dominant shareholder on the supervisory board has been filled by individuals nominated by the international finance organization that has had an 8.8% indirect ownership stake (through the dominant shareholder) in company A. These representatives of the financial organization have possessed extensive international investment and banking experience. The CEO of company A claims:

> "It's always nice to have them on board because they can be the voice of reason and common sense".

The two independent supervisory board members were elected to their positions respectively in 2005 and 2007. One of them held the position of CEO in the largest telecom company in Estonia, the other worked as managing director of a leading car dealer in the Baltic states. They both hold a master's degree, one in banking and the other in management, from recognised foreign universities. The CEO of company A comments on their role on the supervisory board:

> "They provide invaluable commercial insights into things we could be doing better as a company, excellent guidance during the budget and business plan approval process."

[31] The stock exchange rules require that if more than 30% of the share capital of a company listed on the stock exchange is held by a single shareholder, then at least two members of the supervisory board must be independent.

All the supervisory board members appointed or nominated by the city government during the last decade have been active members of the political parties in power. Thus, since 2005 all three seats have been occupied by members of the ruling central party. One of the long-term representatives (2005–2010) on the supervisory board of company A was a professional politician, the chairman of the party faction in the city council and chairperson of several standing committees in the city council. He has a law degree. The other representative of the city government on the supervisory board since 2005 is also a member of city council and has previously worked as a secretary general in the Ministry of the Environment. He holds a doctoral degree in the field of biology. The third member of the supervisory board nominated by the city government is the previously mentioned deputy mayor responsible for municipal engineering services in the city government. The CEO of company A claims:

> "The city members certainly add value to the company usually in the area of their knowledge and know-how. /…/ For example, we have political risks, you will get excellent advice on how to understand and how to manage the political risks."

The deputy mayor in municipal engineering services is the key person who brings the position of the city government to the supervisory board meetings. He claims:

> "I know more about the interests of the city government, about the priorities and problems."

Due to his duties in the city government, the deputy mayor appointed to the supervisory board has a dual role as (economic) regulator and owner in relation to company A. Both the deputy mayor and the CEO of company A argue that they usually deal with regulatory issues outside the supervisory board meetings, unless these need to have a supervisory board discussion due to their strategic nature. The deputy mayor claims:

> "We come to board meetings with issues that are clear and understandable for all."

The CEO complements:

> "We do not bring small day-to-day issues to the board. /…/ In that respect it has not hindered the performance of the board."

After going public in 2005, the supervisory board meetings have been held five or six times a year. The chairman of the board and most of the board members have attended more than 50% of the meetings during the time they have held

office. The supervisory board meetings have been organized and directed by the chairman of the board, the agenda and materials of the meeting are sent to the members in advance. A resolution of the supervisory board is considered adopted if more than half of the participating members of the board voted in favour, except for topics related to mergers and acquisitions or investments and undertaking financial obligations exceeding 639 100 euro, which shall be adopted by the unanimous vote of all participating members of the supervisory board. The deputy mayor and a member of the supervisory board claim:

> "There prevails a will of cooperation and almost all our decisions have been made unanimously. /…/ The interests and objectives are more or less the same for all."

The CEO of company A, who has participated in meetings of the supervisory board over the years, describes a change in the functional emphasis of the supervisory board:

> "Initially it was just a reporting function, thus there is something we have to go through and we did. It has got better all the time, and because we have independent directors in that. It's very much a guiding room now that provides valuable commercial insights for the management board."

The deputy mayor, a member of the supervisory board says:

> "There is a live discussion. It's not a place for nodding and putting stamps. The meetings are rather long, not less than three hours."

According to the decision of the general meeting of shareholders, the payment for supervisory board members has been set at 6400 euro per year for their job on the board.

Regulatory institutions and key actors

Directly under the city government, there are primarily two organizational units involved in water services provision in the city:

1. Municipal engineering services board – among other duties arranges and controls the fulfilment of strategic development goals (e.g. infrastructure extension) in the public water supply and sewerage field. The department organizes cooperation with local water companies[32], handles applications from citizens for compensation for connection fees and is responsible for arranging the construction and maintenance of storm water systems in the city. Since 1997, the board has been headed by an experienced and

[32] Besides company A servicing the main water services area in the city, there are also three other small private companies providing water services.

prominent senior official, holding a doctoral degree in engineering, who reports directly to the deputy mayor responsible for municipal engineering services in the city government.

2. City enterprise board – among other duties responsible for reviewing requests for price adjustments by monopoly public services providers (e.g. water companies) before submitting those to the city government for approval. The enterprise board also executes ownership rights and holding shares for the city government in companies (e.g. in company A). In addition, the enterprise board handles applications and complaints from citizens related to the violation of their consumer rights. Since 2001, the enterprise board has been headed by an experienced senior official, who reports directly to the deputy mayor responsible for the development of entrepreneurship in the city.

Moreover, in connection with the privatisation of company A in January 2001, the services contract signed between the city government and the water company provided for the creation of an independent body, the mandate monitoring unit, to monitor the company's performance of its obligations under the contract. Considering that, more than a year later in March 2002, the city council made the decision to establish a foundation for executing independent supervision (hereafter 'supervisory foundation') over all water companies, not only company A, operating in the city. The supervisory foundation's principal tasks under its statute included: (1) monitoring company A's compliance with levels of service set out in the services contract, (2) monitoring tariffs and issuing recommendations to the city government regarding changes to them, and (3) advising the city government regarding the imposition of penalties if company A fails to comply with any of its obligations under the services contract[33]. The supervisory foundation's mandate also includes the protection of consumer interests. The operation of the supervisory foundation is fully financed by the city government through regular payments from the city budget.

In previous negotiations in 2002, representatives of the city government, the private investors and company A specified principles on how to compose a supervisory board for the supervisory foundation over water companies. The parties agreed that this board, which according to the statute consists of three to five members and all appointed by the city government, would have one member proposed by company A. Accordingly, from September 2002, there has been an attorney-at-law from a law firm representing company A on the board of the supervisory foundation. Another politically non-aligned person on the board was a senior manager of the city enterprise board, who has been on the board since its establishment. All other ten people, who have been appointed to

[33] Pursuant to a decision by the city council passed in May 2005, the supervisory foundation has expanded its monitoring and evaluation activities to all contracts executed between company A and the city government.

the board of the supervisory foundation through 2002–2009 (and beyond), have belonged to the political parties in power at the time. Three board members, including the chairman of the board, belong to the ruling central party. The chairman, an experienced politician, has worked in different positions under the city government during the last decade and has been part of the city council since 1996, before being elected to the *Riigikogu* (Estonian parliament) in 2011. The recent members of the board were appointed by the city government in December 2005 and August 2010 after they were elected to the city council in the list of the same ruling political party. At that time they were both university students aged 19.

The supervisory foundation employs three people. The CEO, university degree in engineering, has worked in that position since the establishment of the foundation in 2002. He is neither a member of the city council nor of the ruling political party.

Strategic planning and goals in water services

Preparation of the first public water supply and sewerage network development plan (WDP) for 2001–2012 had only begun when the privatisation of company A took place in January 2001. Introduction of the updated plan from 2004 claims that more capital is needed for the development of the water infrastructure than stipulated in the services contract during the privatisation. Moreover, in the same document the city government admits that the privatisation should have been conducted based on the long-term water supply and sewerage development plan that could have avoided the problems arising under the services contract between the water company and the city government.

The WDP 2004–2015 was approved by the city council in May 2004 and remained valid for six years. The preparation of this development plan involved the municipal engineering board under the city government hiring an external consultancy company. During their work, the consultants conducted interviews with the managers of the water companies and organized meetings with city officials from related departments (i.e. city planning, municipal engineering, environment and city enterprise) under the city government. All documents regulating to or determining water services provision in the city (e.g. the services, contract, development plans, conducted surveys etc.) had been made available to the consultants for their consideration when compiling the development plan. The CEO of company A comments on his involvement and focus in this planning process organized by the municipal engineering board:

> "We have professional discussions with them, but there is a slightly different agenda because it is not the city as the shareholder. There will always be things in there that are completely different to what our services agreement contains. /…/ If there is ever a mismatch between the two, we obviously communicate. It's the city as shareholder that has approved our business plan. They themselves should not be mixing the two and should recognise the distinction between the two."

The municipal engineering board, as the coordinating unit of the planning process, had asked the supervisory foundation to also provide their opinion on how the drafted WDP aligns with the contracts signed between company A and the city government. The members of the city government had usually become involved in the planning process during city government meetings, when the deputy mayor responsible for municipal engineering services presented them a draft WDP already agreed upon by the departments and the water companies.

The WDP consisting 180 pages pointed out several key targets for the city government to achieve in water services provision as follows:

- By 2010 all households could join public sewerage network in the whole collection area;
- By 1 July 2007, the drinking water must comply with the requirements of the EU Drinking Water Framework Directive;
- Nitrogen removal must be improved through the modernisation of the waste-water treatment plant. The nitrogen concentration in the treated wastewater must be decreased to less than 10mg/l by 2010.

The plan also provides an indication of the dynamics of water and sewerage prices for 2004– 2015, showing that compared to 1.02 euro/m3 in 2003, households were expected to pay 1.89 euro/m3 in 2010 and 2.14 euro/m3 in 2015. The city government expressed its aim to keep household expenditures on water and sewerage below 3% of their net income per household member.

According to the WDP, total estimated investments were approximately 234 million euros from 2004 through 2015. At the same time, company A, in line with the services contract, planned to invest 106 million euros in the water infrastructure, including 26 million euros to be funded by the city government. The WDP makes it clear that implementation of the investment programmes is contingent on (a) contracts signed between the city government and company A, and (b) funds available from the city budget. The CEO of company A concludes:

> "The city development plan is sometimes an input-based document. It's very much about, what you must do. /…/ Our contract with the city government is actually governed by the services agreement, which is an output-based document. It says you must achieve this."

Services contract

In connection with the privatisation of company A, the city government and company A signed a services contract in January 2001, which laid down 97 detailed levels of service[34] for the provision of drinking water, the collection, treatment and disposal of wastewater (including storm water), fire fighting

[34] The levels of service under the services contract comprise a collection of minimum performance standards covering company A's obligations under this contract.

water services, surface water collection, customer service and other key operational matters. The contract, which was prepared by an international consultancy company from the UK hired by the city government in July 2000, was signed for a 15-year period. The services contract, written in English, which is the official language of the contract's text and interpretation, comprises 47 pages in its main part plus annexes on 54 pages. The CEO claims:

> "This agreement is simple. I know exactly what I have to do /…/ if the city comes to assess us, all the indicators are there. We don't have agency conflicts in this."

The levels of service mostly either replicate or refer to the relevant legislative quality requirements applicable to the activities of company A. The selected standards in Table 17 below are identified as particularly important to the company's operations[35].

The services contract signed in 2001 stated the levels of service to be achieved in the initial period from 2001 to 2005. The levels for the next period (2006–2010) should be determined by the end of 2004. With amendments made in the services contract in 2002 and in 2005, the initial levels of service were extended to be applicable also during the period from 2006–2010.

Besides the service requirements, the services contract also sets out the basis for the determination of water tariffs, and their adjustment in certain specified circumstances, which company A is entitled to charge its customers. The water price formula described in the contract includes a component called the K coefficient, which is stated to reflect changes in necessary expenses to be made by company A to achieve the levels of service. Although company A is obliged to make the investments necessary to comply with the contractual levels of service, the contract is not prescriptive about the amounts which the company must invest for these purposes. The way in which company A achieves the specifically defined levels of service was left to the discretion of the management, therefore the contract is considered to be output not input driven. The CEO of company A concludes his position:

> "Output orientation is one of the strengths of the contract in some ways. All the risk and reward lies with the company. This motivates us to do things as efficiently as possible."

[35] The management of company A described the selected levels of services in Table 17 as particularly important to the operation of company A when preparing the international public offering of shares in 2005.

Table 17. The selected levels of service in the 2001 services contract for company A

	Level of service	Measure	Target
1.	Water quality at the consumer's premises	%	Compliance with EC Directive 98/83/EC of at least 95% of all samples and 97% of all bacteriological samples.
2.	Unplanned interruptions in water supply	Hours	No single interruption exceeds 12 hours. If water supply is interrupted for more than five hours, the company is required to provide its customers with an alternative source of water supply.
3.	Effluent quality at the wastewater treatment plant	Pollution concentration load	Full compliance with the existing and planned future standards regarding the discharge of effluent.
4.	Water losses	%	Reduction in water losses by at least 25% by 2005 compared to 1999. Thereafter, maintain an economic level of water leakage.
5.	Customer service	Days	All customer contacts and complaints monitored; all complaints addressed within 10 working days, except for complaints regarding flooding of sewers.
6.	Sewerage network coverage	%	189.6 km of new sewerage pipes to be constructed between 2001 and 2006, for the purpose of ensuring full coverage of the sewerage network in certain specified districts in the city

Source: compiled by the author

Determination of water price and compensation for investments

According to the 2001 services contract, the water and sewerage price for each year is based on the tariff for the immediately preceding year, as adjusted in line with changes in the CPI and as adjusted by reference to a further variable, the K coefficient, agreed upon between company A and the city government for each year[36]. The tariff (i.e. the K coefficient) review should take place every five years. Besides, additional costs associated with any change in the law are not the responsibility of company A and can be recovered from customers through tariff adjustments in the following year.

In the winning privatisation bid, the dominant shareholder had proposed to the city government that the (K) coefficient will equal zero in 2001, 2002 and 2003; thereafter 15% both in 2004 and 2005. Thus, the K coefficient itself,

[36] The same price mechanisms expressed mathematically as following: $T_1=T_0$ x (1+ΔCPI+K+change of law), where T_1 stands for the tariff of next period and T_0 for tariff in current period.

without considering changes in the CPI, would have increased water prices by a total of 32.3% (i.e. 1.15 x 1.15) from 2001 through 2005.

Only a few months after the privatisation, referring to the increase in consumer prices from July 2000 to June 2001, company A approached the city government with the first request to raise water and sewerage tariffs by 6.89% from January 2002. The request was approved at a slightly lower rate (e.g. water prices increased by 6.68% for residential and 6.87% for commercial customers) from February 2002.

Protection against excessive tariff increases was declared as the primary aim of the new political coalition in the city government in April 2002, when the mayor initiated the re-negotiations of the services contract with both company A and its dominant shareholder. After 50 rounds of negotiations with more than 100 working hours, after having discussed 12 versions of drafted amendment contracts, the parties came to a tripartite contract (hereafter '2002 amendment contract') in September 2002. Based on the 2002 amendment contract, company A and the dominant shareholder agreed to maintain water tariffs during 2003 at 2002 levels in return for determining the size of the K coefficient in advance for the years 2004 to 2010. The K coefficient agreed for the period 2004–2010 was as follows: 10% in each of 2004 and 2005, 6.5% in each of 2006, 2007 and 2008; 2% in each of 2009 and 2010. Thus, agreement on the size of the K coefficient would have raised water prices by a total of 52% from 2004 through 2010. During the IPO in 2005, the management of company A revealed in the offering circular to potential financial investors that the 2002 amendment contract would provide the company with a 'stable platform' for conducting its operations. Nevertheless, in October 2003 based on a price request received from company A, the city government approved a 13.8% increase in the price of water from January 2004. This price adjustment, established on the basis of a decree from the city government, was reviewed by the city enterprise board and an opinion on the price request was also given by the supervisory foundation.

In 1999, the city council had passed a regulation on the establishment of water and wastewater prices in the city, which authorises the city government to determine the prices based on requests from the water company. According to the 1999 regulation, revised in 2006 and 2007, the water company when submitting a request to raise prices has to present (1) a price calculation, (2) an audited financial report from the previous year, (3) a cost and revenue prognosis based on both current tariffs and on new applicable tariffs. During the review process, the city government is entitled to request detailed information on single cost items. This price regulation with its 2006 and 2007 amendments does not give any reference to the supervisory foundation, which is responsible for monitoring tariffs and issuing recommendations to the city government regarding changes to them. The CEO of the supervisory foundation comments:

> "Our main focus in supervision is on non-economic objectives because the water price is fixed over a rather long period by the services agreement and we can control whether it is in fact in compliance with the terms of the agreement. We cannot interfere in the economic activities of the water company. "

The deputy mayor adds:

> "One cannot say that the city government does nothing, the city enterprise board reviews the requests carefully. But of course, in the services agreement there is a formula that is followed for price adjustments."

And the CEO of company A claims:

> "I would bet that the city government's tariff approval process is better than in other municipalities. At least there is a framework around what the customer service should be and what the tariffs should be. If our cost base changes by more than the CPI, that's our risk. If our cost base changes by less than the CPI, that's our gain."

The 2002 amendment contract also recorded the new agreement regarding the city government's reimbursement of connection costs incurred by company A as part of the extension of its sewerage network. The initial contract had provided that the investment programme for network extensions should be completed by 2006; however, due to budgetary constraints, this programme was extended to the end of 2010 as stated later in the amendment contracts. In particular, the city government and company A with its dominant shareholder realized soon after the privatisation that they understood the contract differently in terms of who should finance the planned network extension programme. The topic of compensation payments for the network extension to company A became the most divisive issue during the contract renegotiation in 2002. However, the 2002 amendment contract concluded that the extent of network extensions to be carried out by company A each year, pursuant to the services contract and any additional programmes, would be dependent on the availability of funds from the city budget. As a result of this contract, company A undertook construction activities to the extent the city government had allocated sufficient funds in its annual budget to meet the connection charges (comprising full construction cost including overheads, financing costs and applicable value added tax or VAT). In 2005, with another amendment contract the city government, company A and the dominant shareholder agreed upon a new network extension programme, based on the principles agreed in the 2002 amendment contract. The parties also agreed upon new principles of reimbursement by the government for the network extension costs incurred by company A.[37]

[37] The compensation, the amount of the connection charge paid by the city government to company A depends on the date by which actual connection to the network occurred – 100% compensation, if the user connected within 12 months after the permit for use was issued, otherwise the city government compensated 80% of the costs.

A principal correction in the price formula was introduced with the 2007 amendment contract, when the city government, company A and the dominant shareholder agreed and the city council in November 2007 approved, that:

1. K coefficient would be 0% from 2011;
2. Water and sewerage network extension costs will be compensated to company A through a development component (0.58 euro/m3 for 2008–2011 and 0.39 euro/m3 for 2012–2017) included in the rates of the domestic tariff according to consumption in the extended services area.

Since then the development component has been shown on the invoices issued by company A to its domestic clients; however, according to the contract its amounts are paid directly by the city government to the water company. A head of department in the municipal engineering services board claims:

> "It is drawn up as a development component, but in fact this is a connection charge we pay the real estate owners."

According to this 2007 amendment contract, all works set out in the network extension programme[38] must be completed at the latest by 31 March 2011. The CEO of company A concludes:

> "The actual construction and investment decision is taken out of the city's hands and it was given to the company. So, the consequence of that agreement – we are going to construct by this time and the city government will pay bills over a longer period of time."

Consequently, by approving the same 2007 amendment contract, the city council also decided to prolong the exclusive right of company A to provide water and sewerage services in its services area until 2020. The exclusivity period was prolonged from its initial term November 2015 by an extra five years without the city government carrying out any competitive tender process.

At the beginning of 2009, in light of fiscal austerity and the general decline in construction prices, the city government proposed that company A and the dominant shareholder review the rates of the development component established in the services contract in 2007. After negotiations in July 2009, the city mayor, the deputy mayor, the CEO and the chairman of the board in company A concluded in a meeting that the network extension programme will be completed on time by 2011, but for 1/3 less funds (i.e. approx. 32 million euro less) than agreed in 2007 before the fiscal austerity measures. Consequently, the parties adjusted the development component and fixed the adjustments in the 2009 amendment contract, which relieved the city government of payments for

[38] The contract was supplemented with a detailed list of streets with lengths of network sections to be constructed each year. Total cost of the network extension programme was expected to be approximately 95.8 million euro.

the development component for November – December 2009 and shortened the total payment period by three and a half years (from December 2017 to July 2014). In a related press release, the city mayor declared this agreement as a 'big victory for the citizens, making it possible to reduce the budget burden in this field over the coming years.'

However, a few months later, at the beginning of September 2009, the city government established a temporary commission authorized to commence negotiations with company A on tariff reduction from January 2010. The mayor explained this in a press conference:

> "If we look at the services agreement, the water price should increase next year. We don't consider this justified and we will argue against it."

This temporary commission comprised six members – four senior city officials plus two deputy mayors heading the commission. Among other members, the commission also included the senior manager of the city enterprise board, who belongs to the board of the supervisory foundation. A few weeks later the city government announced that as a result of the negotiations, company A has agreed to forego the 2% K coefficient from 1 January 2010 and consequently the water price for consumers under deflationary conditions would decrease by 0.9% instead of an increase of 1.1% initially derived from the price formula (i.e. 2% K coefficient – 0.9% CPI = 1.1% price increase). The deputy mayor, who had headed the price negotiations with company A, communicated the outcome as very successful for the city government in the media. At the same time, company A, through its head of communications added briefly to the public:

> "This decision was made between the shareholders during negotiations and we won't comment on this in more detail."

On the same day, company A submitted an application to the city government to change the water tariff. Two days later, the city government approved the request from company A for new tariffs to apply from 1 January 2010.

Budgeting and financing

The annual planning and budgeting process in company A usually begins at the end of June, when the management board starts to discuss strategic directions for the coming years. The CEO specifies:

> "We certainly envision until the end of the contract. I am just racking the framework."

Sometime in July/August a larger group of company managers, known as the leadership team, comes together to discuss the progress made towards the strategic objectives of company A. The CEO claims:

> "As a group we discuss what we should do through those strategic objectives and we will re-develop those over the period of time. That information will feed people's thinking for the financial elements of the budget and business plan."

After that meeting, special budget forms for operational and investment budgets with related instructions, time schedule and given assumptions are sent to the managers for completion by the planning and analysis department under the CFO. At that stage in the budgeting process, the management board gets involved through various iterations and discussions on priorities with the managers through September. The CEO, who has also previously worked as the CFO in the company claims that the annual budget of company A is mostly composed on the basis of the previous year's figures:

> "We are only starting to do activity based costing /…/ We have to look to be more efficient. May be we can still do the same volume for less work or cost, if we organize ourselves differently."

The CEO usually proposes the budget plan to the supervisory board for approval in October. During that budget meeting the supervisory board members mostly challenge the assumptions used for budget planning by the management board. The CEO adds:

> "They will challenge the inputs we have made, rather than the outputs. The assumption is the key! If you said your commercial sales will increase by 1%, what is this based upon? How will you derive the decision on a headcount? You said you are going to make these investments; well I need these investments to make a difference in the bottom-line and profit in the approved business plan period. How will any of these investments make a difference to the services?"

During the budget approval in the supervisory board meeting, the deputy mayor representing the city government has also looked at how the budget makes it possible to fulfil the investment programmes and other obligations company A has to the city government. The deputy mayor claims that he has given his approval to all the proposed budget plans in the supervisory board meetings, though he has also expressed dissenting opinions on specific issues:

> "There are rather reasonable people on the board. Usually we have succeeded in discussing all the nuances before approving the budget in order to have a consensus when voting."

Moreover, the CEO adds that the network extension programme once agreed upon with the city government has never been debated again in the board meetings. He concludes:

> "There are three members representing the city as shareholders and they should make sure that our strategy is correct for delivering maximum value to the shareholders."

There are several regular income flows from the city budget to company A, which derive from a number of agreements. Besides the development component paid for the extension of the water and sewerage network (approximately 8.9 million euros in 2010), the city government also pays for storm water to be conducted to the public sewerage system according to special contracts (approximately 3.9 million euros), the construction of storm water facilities (approximately 2.7 million euros) and the extraction of water from fire hydrants and public water extraction points (320 thousand euros). Due to the majority private ownership of company A, the company has not been able to qualify for EU support funds provided for water and sewerage infrastructure modernization in Estonia. Therefore, capital investments conducted by company A have been financed through bank credits, shareholder equity or compensations paid by the city government from the city budget. From 2001 to 2010, company A made capital investments of approximately 78 million euros, not including network extensions reimbursable by the city government. During the same period, the city government itself invested over 70 million euros[39] in the construction of the water, sewerage and storm water networks from its annual budgets. The head of department in the municipal engineering services board, who is involved in the preparation of their budget bids for water services, explains the budgeting process in the city government:

> "Obviously we prepare larger initial budget bids for our finance department than the city budget would ultimately offer us. /…/ If we should not get enough funds for the agreed works, we will have to turn to the water company and request changes to the agreement."

Reporting and accountability

On a quarterly basis, the members of the supervisory board receive a financial report from the CEO that makes it possible for them to have an overview of the financial performance of company A. The report includes a profit and loss statement, balance sheet and information on budget fulfilment. On a quarterly basis the management of company A also reports to the stock exchange, providing investors with key figures and comments on actual year-on-year financial performance. The CEO adds:

[39] Author's calculation based on data from annual reports, annual city budgets and their amendments from 2001 to 2010. This amount mostly includes payments to company A for network construction.

> "We don't report against the budget to the stock exchange. We don't give a budget or forecast information to any of our investors."

As opposed to other investors, the dominant shareholder also gets monthly financial reports from the management of company A. The CEO claims:

> "Because it's a group company and we have always done this. There is no discussion about this."

After the end of each financial year, as required by the Estonian Commercial Code, the management of company A has prepared the financial statements and the management report, which then together with the management board's proposal for profit distribution have been presented to the board members and for their approval. The structure and the volume of the management (activity) reports changed in 2006[40], which was the first full year that company A was listed on the stock exchange. Since then the management reports of company A, presented over 11–13 pages at the beginning of the annual reports, consist of three parts: (1) chairman's statement, (2) results of operations, and (3) corporate governance and corporate governance recommendations report. While the chairman's report provides an overview of the company's main achievements and events during the year, the second section of the management report (i.e. results of operations) reveals the main economic indicators with comments and comparisons across the previous five years. The same section also provides information on the distribution of share capital (by size and share ownership) and share price statistics since becoming listed. In the final part, which reports on corporate governance, and in accordance with the "comply or explain" principle, the management of company A describes their management practices and confirms their compliance or otherwise with the corporate governance recommendations. Company A complies with the vast majority of the recommendations (i.e. 53 of 56)[41].

Moreover, besides this (simple) management report and mandatory financial statements submitted to the Estonian Commercial Register, each year since 2002 the management of company A has also compiled a professionally designed and illustrated yearbook – an extended annual report providing a comprehensive overview of company A's financial and non-financial

[40] Since 1 January 2006 the companies listed on the stock exchange are recommended to follow the "Corporate governance recommendations" issued by the financial supervision authority.

[41] There has been always non-compliance with the principles in the following areas: (1) company A publishes the overall management board remuneration, but not individual remuneration of the management board members; (2) the supervisory board does not regularly review the numeration of the management board members appointed by the dominant shareholder; (3) only two of nine, not at least half of the members of the supervisory board, are independent.

performance during the year. The yearbook includes additional information on the delivery of the company's strategic objectives and operating indicators, compliance with water quality standards and environmental regulations, levels of customer satisfaction, the company's reputation in the community and staff characteristics. Table 18 below shows that the only observed performance dimension not covered in the management reports through all the years is related to the water tariffs and services affordability for the customers of company A.

The annual report of company A, after being signed by the supervisory board, is presented to the shareholders for their approval at the annual general meeting (AGM). Before the AGM, the city government in one of its meetings discusses the annual results of company A and the board's proposal on dividend distribution and authorizes one of the deputy mayors, either that responsible for entrepreneurship or municipal engineering services, to execute voting rights in the annual general meeting.

Besides the mandatory annual reports presented to the city government as a shareholder every year, the management of company A is obliged to report to the supervisory foundation on compliance with the 97 levels of service from the services contract. The CEO of the supervisory foundation explains:

> "In the foundation we compare this report with comparable data we have collected ourselves during the year and compile our own report for the city government."

Thereafter the supervisory foundation submits the compliance report on company A's performance to the city enterprise board and to the municipal engineering services board with its own opinions and recommendations on possible sanctions. Both boards, under the city government, review the report from the supervisory foundation and form their positions including proposals on necessary penalties for the consideration of the city government. The CEO of the supervisory foundation claims:

> "Almost every year we have proposed imposing some penalties on the water company, but the city government just issued a warning in the first year. If no improvement follows, then penalties have been imposed[42]."

[42] In 2007 and 2009, the city government decided to impose penalties of 1300 and 980 euros respectively on company A for exceeding the time limit for the liquidation of water interruptions.

Table 18. Performance indicators in company A yearbooks 2006–2009

Type of information	Performance dimensions	Performance indicators	2006	2007	2008	2009*
Non-financial performance	Water quality compliance	Compliance ratio, quality indicators	X	X	X	X
	Sewage treatment compliance	Compliance ratio, treatment levels	X	X	X	X
	Customers	Number of customers, end-users	X	X	X	X
		Customer satisfaction index	X	X	X	X
		Customers service indicators	X	X	X	X
	Price	Current water and sewage price (euro/m3)	–	–	–	–
		Typical residential bill; affordability index	–	–	–	–
	Production volume	Drinking water produced (m3)	–	X	X	X
		Sewage treated (m3)	–	X	X	X
		Produced sludge (tons), recycled sludge (%)	X	X	X	X
		Discharged sewage and storm water volume (m3)	–	X	X	–
	Internal processes	Number of water meters replaced	–	X	X	–
		Number of water meters controlled	–	–	X	–
	Assets	Number of water main breaks and sewer chokes	–	X	X	X
		Water loss (%)	X	X	X	X
		Sewerage and storm water pipes cleaned (km)	X	X	X	X
		Length of constructed and renovated water and sewerage pipes (km)	X	X	X	X
	Efficiency	Efficiency of the production technology (e.g. energy consumption to outputs)	–	X	X	–
	Employees	Commitment of employees (index); employee satisfaction; leaving turnover; trainings (days)	X	X	X	X
Financial performance	Key financial performance indicators	Sales margins (%) – gross margin, operating margin, net margin	X	X	X	X
		ROA, ROE (%)	X	X	X	X
		Current ratio (%)	X	X	X	X
		Share price, EPS, P/E, P/BV	X	X	X	X

Note: * for more detailed information on compliance with quality and environmental standards, the management report refers to a special Environment Report for company A.
Source: compiled by the author based on data from annual yearbooks

In line with the 2007 amendment contract, once a year by the end of March, company A is also obliged to inform the supervisory foundation and thereby the city government on the completion of the network extension programme in the previous year (i.e. number of connections established, characteristics of the pipes used, cost of investment). In addition to the annually submitted reports, company A also provides the supervisory foundation with interim reports either on a regular basis (i.e. on the economic situation) or ad hoc upon the request of the foundation (e.g. on details of particular investments, quality etc). The CEO of the foundation notes:

> "On a quarterly basis they inform the city government about potential factors, which might reduce profits and harm the economic situation of the water company. If possible, the city government as investor could then remove obstacles based on this information."

The city government and company A publish information for the general public on their websites on the internet, where citizens can find selected performance information on water services provision in the city. However, there is no comprehensive reporting by the city government to the city council or to citizens on the fulfilment of strategic objectives set in the WDP. As revealed in Table 19, company A publishes a variety of (comparable) non-financial and financial performance information, mostly in the form of yearbooks, environmental reports and operations reports on its internet homepage. The consolidated annual reports of the city government available on its internet homepage mostly reveal some financial information on the performance of company A. However, neither company A nor the city government and the supervisory foundation have published complete reports on company A's compliance with all 97 service levels from the services contract on their internet homepages.

Company A does not disclose the remuneration for individual management board members in its reports, considering that sensitive and private information that would bring no benefit to the shareholders. The CEO of company A adds:

> "It's not ideal. /…/ Payments for the performance objectives via different salaries and different percentages against them are all set by the remuneration committee."

Table 19. Performance information published on the Internet homepage

Type of information	Performance dimensions	Performance indicators	Company A website	City government website	Supervisory Foundation website*
Non-financial performance	Water quality compliance	Compliance ratio, quality indicators	X	–	–
	Sewage treatment compliance	Compliance ratio, treatment levels	X	–	–
	Customers	Number of customers, end-users	X	–	–
		Customer satisfaction index	X	–	–
		Customers service indicators	X	–	–
	Price	Current water and sewage price (euro/m3)	X	X	–
		Typical residential bill; affordability index	X	–	–
	Production volume	Drinking water produced (m3)	X	–	–
		Sewage treated (m3)	X	–	–
		Produced sludge (tons), recycled sludge (%)	X	–	–
		Discharged sewage and storm water volume (m3)	X	–	–
	Internal processes	Number of water meters replaced	X	–	–
		Number of customer contacts re: water pressure	X	–	–
		Number of water meters controlled	X	–	–
	Assets	Number of water main breaks and sewer chokes	X	–	–
		Water loss (%)	X	–	–
		Sewerage and storm water pipes cleaned (km)	X	–	–
		Length of constructed and renovated water and sewerage pipes (km), number of new connections	X	X	–
	Efficiency	Efficiency of the production technology (e.g. energy consumption to outputs)	X	–	–
	Employees	Commitment of employees (index); employee satisfaction; leaving turnover; trainings (days)	X	–	–
Financial performance	Key financial performance indicators	Operating revenue and costs (euro)	X	X	–
		Financial income and costs (euro)	X	X	–
		Net profit (euro)	X	X	–
		Total assets, liabilities & equity (euro)	X	X	–
		Financial ratios (ROS, ROE, ROA)	X	–	–
		Distributed dividends	X	X	–

Note: * the supervisory foundation's website has a general link to the homepage of company A without any performance information on its own site.
Source: compiled by the author based on data from the websites. Last accessed 28 June 2011

The remuneration committee was formed to advise the supervisory board on management remuneration issues and it comprises two members: the chairman of the supervisory board representing the dominant shareholder and one independent supervisory board member. Moreover, the members of the management board seconded by the dominant shareholder receive remuneration and other related benefits[43] for their work in company A directly from the dominant shareholder, the matters related to their employment are not reviewed by the supervisory board. Nevertheless, in 2009 company A was recognised by NASDAQ OMX stock exchange with awards for the best annual report in the Baltics and the best investor relations in Estonia.

Financial performance

The financial results of company A have shown a strong and steady improvement during the last decade. As revealed in Table 20 below, company A has been highly profitable through all the years since its privatisation in 2001. The net profit of company A has increased significantly from 1.5 million euros in 2000 to 21.7 million euros in 2009.

The profitability of company A increased drastically right after privatisation in 2001, when the net profit margin moved up to 40% against 5% a year before. Since then the net profit margin has remained between 30–45% for most years, while the operating profit margin steadily growing above the 50% level already reached 60% by 2009. The management of company A has continued to focus on the improvement of operational efficiency and cost control (e.g. 45% reduction in the number of employees between 2000 and 2003), which has only resulted in relatively small changes in operating costs (e.g. 21.5 million euro in 2002 v. 21.7 million euro in 2008) in spite of a challenging inflationary environment during the economic boom in Estonia between 2004–2007. At the same time, company A has benefited from a secure revenue stream established on the basis of the water tariff formula and the network extension programme as stated in the services contract and subsequent amendment contracts.

[43] These amounts are payable by company A to the dominant shareholder as part of the payments due pursuant to the 2001 technical services contract. Company A is required to pay to the dominant shareholder a base fee of 550 000 per contract year, increased in line with inflation. In addition, company A shall reimburse the dominant shareholder for all its costs arising from the provision of its management services under the technical services contract.

Table 20. Financial information in company A (thousand euros)

Year	Operating revenue*	Operating profit	Net profit	Total costs	Capital investments	Total assets	Equity capital	Dividends	Net profit margin (ROS)
2000	28 097	4 517	1 538	27 599	15 815	121 061	71 399	–	5%
2001	27 040	10 613	10 730	18 323	14 162	150 919	113 585	11 641	40%
2002	32 589	11 160	10 836	23 934	11 668	146 131	53 787	8 425	33%
2003	32 146	10 759	6 681	26 126	11 093	139 426	57 592	2 876	21%
2004	30 600	16 292	11 054	25 136	10 122	142 182	63 853	4 793	36%
2005	35 100	18 059	11 143	27 156	14 262	151 701	67 839	7 158	32%
2006	37 700	21 597	15 853	29 740	15 753	157 976	73 658	10 034	42%
2007	41 400	24 118	17 757	25 401	18 276	163 562	78 887	12 527	43%
2008	46 011	25 907	18 916	29 694	19 573	163 553	81 889	15 915	41%
2009	49 368	29 523	21 726	31 704	16 050	171 417	88 914	14 700	44%

Note: * accounting principles used for calculation of 2000–2003 operating revenues differ from the ones used for 2004–2009 calculations re: changes in compensations recording.
Source: compiled by the author based on data from annual reports

At the end of 2000, company A's equity capital comprised 71.4 million euros, which included share capital of 54.3 million euros and investment reserves of 10.2 million euros. In 2001, according to the privatisation agreement, the private shareholder paid 44 million euros (out of a total sales price of 85.1 million euros) into the share capital of company A, which raised the equity capital of company A to 113.6 million euros (i.e. debt-to-assets approx. 25%) at the end of the year. However, by November 2001, the shareholders (i.e. the new private investor and the city government) had already decided to reduce the share capital by 61 million euros and to withdraw the amount from company A. Consequently, by the end of 2002, the equity capital dropped to 53.7 million euros. The CEO of company A at that time justified the buyback of shares due to the over-capitalization of the company, meaning that company A would benefit financially from restructuring the capital structure (i.e. replacing equity partly with debt capital). Shortly after the reduction of share capital was registered in September 2002, company A executed a loan agreement with an international financial organization in November 2002, pursuant to which the bank extended a loan facility in the amount of 80 million euros. Since then the debt-to-assets ratio of company A has remained between 0.5 and 0.6.

For investors the management of company A has declared a commitment to real growth in dividends year on year. The dominant shareholder and the city government collected the first dividends (0.14 euros per share) from company A in 2001, which were distributed not only from the profits of the previous year (0.02 euros per share), but also from the profits accumulated during the pre-privatisation period (see Appendix 10). Only one month after the privatisation, in February 2001, the newly appointed CEO of company A had already proposed the shareholders distribute the first dividends in the amount of 11.6 million euros. In the media, a member of the management board justified this in terms of the over-capitalization and large amount of free cash company A had on its bank accounts by saying:

> "Distribution of dividends is a good option to change that."

From 2001 to 2008, company A has distributed the majority of its profits to shareholders (see Appendix 10), the dividend payout ratio[44] remained solid between 65–90%. Moreover, in 2009 when Estonia's economy faced deep recession, the shareholders of company A earned record dividends on their ownership and the dividend payout ratio reached 147%. As in 2001, the shareholders in 2010 withdrew more dividends from company A than its net profit in the previous year. Thus, company A paid a total of approximately 32 million euros in dividends in June 2010, over 11 million euros of this were paid to the city government. This dividend payment alone from company A exceeded the

[44] Dividend payout ratio is a fraction of the net income a firm pays to its shareholders in dividends.

total dividend income initially planned by the city government (i.e. 7.7 million euros) into the city budget for 2010. Soon after in the same month, the city council approved the first supplementary city budget of 1.9 million euros for 2010, which included extra dividend revenue in the amount of 3.8 million euros beside declined income from taxes and fees. Hence, both the city government and the dominant shareholder have benefitted financially from partnership in company A during the last decade. They have both received more income from co-ownership in company A than their cash outflows regarding the water company (see Appendix 11).

Non-financial performance

The affordability[45] of water services for the customers of company A has remained relatively good (see Appendix 8) despite water prices increasing by 2.2 times between 2001 and 2009. Average water bills comprised approximately 1.2–1.3% of the disposable income of the average household, which remains clearly below the threshold of 3–5% suggested by some international organizations such as the World Bank or the OECD (OECD 2003). As shown in Appendix 8, the value of the affordability indicator for services provided by company A, measuring water prices against household capacity-to-pay, has also been below the Estonian average, the gap has increased in recent years. In regard to water prices established for businesses and other legal entities operating in the city, those have paid 2.3 times more per cubic meter of water and sewage than the residential clients of company A (see Appendix 9). While the residential water prices of company A have been close to the Estonian average, the commercial prices have been twice the average.

In regard to access to water services, by the end of 2009, approximately 99.6% of company A's service area was covered by the water supply network and approximately 98% by the public sewerage network. By the end of the network extension programme in 2010, 99.7% of company A's service area had access to both the public water supply and the sewerage network.[46] Access to the public water supply had not increased significantly since the privatisation of company A, when it was already over 98%. Somewhat less people, approximately 95% of the population were connected to the public sewerage network in 2001.

[45] Affordability is a relative concept, where the amounts of water constituting a minimum threshold must be accurately estimates (Garcia-Valinas et al 2010). Hereinafter the affordability indicators for the Estonian water companies are calculated under the following assumptions: water consumption 90 l/day per capita; income measured as monthly net income per household's member in city A and in counties, where cities B and C located.

[46] From 2001 to 2010 more than 6800 real properties have been given possibility to get access with public water and sewerage network of company A. In total 215 km of new sewage pipes, 33 km of water pipes and 78 km of storm water pipes have been laid since 2001.

Moreover, since 2002, the city government has compensated households partly (i.e. 80%) or fully for the cost of connecting to the public water supply and sewerage system depending on when the actual connection to the network occurred after the permit to use the network was issued. With the introduction of the development component to the water tariffs, the city government has compensated households for 100% of the cost of connection for properties covered by the network extension programme since 2008.

The quality of the drinking water supplied by company A has improved constantly over the last decade, and meets national and EU quality criteria. In 2010, 99.6% of all water samples (i.e. 2901 samples of 2913) taken at the taps of the customers of company A complied with the quality requirements established for drinking water in Estonia.[47] According to the services contract, at least 95% of all water samples are required to be compliant with the quality standards. However, in 2001 the respective figure was approximately 61%. However, company A has not been able to solve the problem of the relatively high concentrations of natural radionuclide (radium) in drinking water extracted from ground wells and meet the criterion of the total indicative dose stated by the EU Drinking Water Directive (i.e. 0.1 mSv per year). Approximately, 10% of the population in the city is supplied with drinking water extracted from ground wells, where the total indicative dose has in places exceeded the permitted level by 2–4 times. However, a special study conducted by the Estonian Health Board in 2010 concludes that the health risk from exposure to the radionuclide in the drinking water remains low in the city.

Pollution in the Baltic Sea caused by the inefficient removal of nitrogen and low quality of effluent discharged into the reservoir was an issue for company A until 2005. After modernising the nitrogen removal process (total investment – 3.5 million euros) in its wastewater treatment plant, the Baltic Marine Environment Protection Commission (HELCOM)[48] removed the city from its "hotspots" list as a polluter in 2006 because company A fully complies with the requirements for wastewater treatment. Besides, at the end of 2005, company A became the first company in Estonia to receive the EU EMAS (Eco-Management and Audit Scheme) certificate.

Finally, in terms of compliance with the 97 levels of service from the services contract from 2001 through 2009, company A has met either all or the vast majority (i.e. 96 out of 97) of them annually[49]. The non-compliance is related to the level of service on the maximum permitted length of unplanned

[47] The quality requirements are established under regulation no. 82 by the Minister of Social Affairs based on the EC Directive 98/83/EC.

[48] HELCOM is the governing body of the "Convention on the Protection of the Marine Environment of the Baltic Sea Area" – more usually known as the Helsinki Convention (About HELCOM 2011).

[49] Among other levels of services, company A has clearly outscored the levels for water quality at consumer's premises (99.3% against 95% target in 2009), level of leakages (16.6% against 26% target in 2009) and number of chokes (1089 against 2444 in 2009).

interruptions – company A has failed to solve all the water emergencies within the agreed 12-hour time limit[50].

Summary of the case study

In the present case, the CEO and the chairman of the supervisory board with the deputy mayor(s) and the city mayor form a group of key actors that has driven the performance of water services provision in the city. Still, since the privatisation of company A in 2001, opportunities for the city government to influence the performance of the company have remained limited. The city government and the dominant shareholder as the winner of the privatisation had concluded contracts that, as major governance instruments regulating water services provision and corporate governance of company A, left the city government without control over the company. Both the management and supervisory board of company A have been headed by individuals expatriated from the British parent company and appointed by the dominant shareholder alone. The two independent members of the supervisory board, like the representatives of the dominant shareholder, are foremost seeking to grow the company.

The politicians on the supervisory board of company A, like the deputy mayor responsible for governance of municipal engineering services, do not only represent shareholder interests (i.e. company value), but also because of their work at the city government or city council they represent the position of the city government as regulator. Such a dual role in board members is not considered ideal according to international corporate governance principles, which state that the situation can easily result in confusion and conflicts of interest between policy and ownership functions (OECD 2005). In the present case, the city government initiated a number of contract re-negotiations (often shortly before elections), which ended up with some short-term tariff freeze or reduction, but on account of extra cash-flows or other benefits ensured to company A in the future (e.g. prolongation of the services agreement without any tender in 2007). Thus, the members of the city government showing themselves as strong tariff negotiators on behalf of the citizens, in fact made deals with the representatives of the dominant shareholder, which have ensured increasing revenue streams that have strengthened the financial position of company A. Those who belong to the supervisory board of company A have agreed with the company's profit targets, while always approving the annual budgets proposed by the CEO.

The principal tasks of the supervisory foundation, established by the city council more than a year after the privatisation of company A, do not prescribe that the foundation perform the role of economic regulator. Moreover, in terms

[50] In 2010 company A had 355 of unplanned interruptions to supply and in case of one incident the cause of the leak or interruption took longer than 12 hours to establish. Both in 2005 and 2007 company A had three such cases.

of independence from policymakers and water companies, the foundation is financed from the city budget, and has a representative of company A on its supervisory board. Most of the other board members, including the chairmen, have been active politicians from political parties in power all appointed by the city government. However, the last two appointments to the board of the foundation, two young students, indicate that some other qualities rather than professionalism and experience in the water sector have been valued.

The first WDP prepared by the city government remained a mandatory vision document required by national legislation, its long-term goals were not defined at the time of the privatisation of company A. Consequently, the actors involved in the preparation of updates to the WDP, proceeded rather from the services contract or company A's business strategy approved by the city government as a shareholder in company A.

The services contract between company A and the city government, the main regulatory mechanism in water services provision, has several distinct features. Firstly, the water tariffs are not handled apart from the expected services outcome, although the contract is not prescriptive of the amounts that company A must invest for these purposes. The second key feature of the regulatory contract relates to the obligation on company A to report to the city government (i.e. supervisory foundation) on all 97 levels of service. Moreover, the managers of company A have actively communicated the company's compliance with these service standards to the general public on the corporate website (see Table 19) and in the media, as necessary. Going public in 2005 and reporting on compliance with the corporate governance recommendations of the stock exchange, have increased transparency regarding the corporate governance mechanisms and procedures of company A.

All in all, both financial (shareholder perspective) and non-financial performance (stakeholder perspective) have improved or not suffered during the period from 2001–2009. Among other possible reasons, the production of water services in company A has turned out to be a financial success because:

- The services contract, where water tariffs are set for a longer period of time without any constraints on justified profitability, provides a strong incentive for efficiency improvement and profit maximization;
- The agreed water tariff formula includes an inflation component that has provided protection against increases in production costs and possible losses of profitability in times of economic boom;
- The services contract is an output oriented regulatory instrument (focusing on what must be achieved), which does not determine the inputs (investments, costs) company A should employ to reach the targets;
- Professional profit-oriented management exists in company A with extensive international experience in the water industry. The managers have personal performance based incentives (profit rights) established solely by the dominant shareholder;

- As a result of contract re-negotiations, the city government has paid for the network extension programme (i.e. for new connections and access to water services) from its own budget. Therefore, the city government had to cover carried out some unexpected transactions costs regarding the privatisation of company A.

In light of the strong financial results of company A, the mixed public-private ownership has yielded remarkable financial income for the both major shareholders (see Appendix 11). Each year the AGM of company A has decided to distribute dividends at a relatively high payout ratio. Nevertheless, as result of the investments, from the water users' point of view, the water quality and access to the public water supply and sewerage network have improved. The non-financial performance of company A has also improved in terms of wastewater treatment. Despite a remarkable water tariff increase between 2001 and 2009, the affordability of water services has remained relatively good in comparison to the Estonian average (see Appendix 8). This can be partly explained by the relatively higher household income in the city, but also the commercial clients of company A paying a significantly (i.e. 2.3 times) higher price for water and sewage than residential clients. Hence, one group of water users has subsidized the other (see Appendix 9).

All in all, in light of the present case, mixed ownership could be seen as a combination that mitigates some of the possible disadvantages of pure private ownership, such as the lack of accountability and distrust between partners. For the city government as owner, the partnership with the dominant shareholder has benefited them financially from the effective management of company A. However, from the point of view of the city government as service guarantor (contractor), it remains questionable whether the involvement of private partners has ultimately hindered (e.g. no access to EU grants, reduction of share capital) or facilitated the development of water and sewerage systems in the city. In light of the contract re-negotiations, it is obvious that the situation has turned out to be somewhat different from the initial expectations of the city government, which has limited options to control water tariffs and investments as a result of the privatisation.

3.3.2. Case B

Governance structure and key actors

Company B in its current legal form was established in 1997, when the municipal water utility was transformed into a public limited company and since then it has been 100% owned by the city government. All the water infrastructure needed for water services production in the city belong to company B. It provides water services in one of the largest cities in Estonia; however, the company is significantly smaller than company A as revealed in Table 8 (p. 113).

Operating as a public limited company, company B has established the following corporate governance bodies: the shareholders assembly, supervisory board and management board as depicted in Figure 23.

Figure 23. Control delegation in company B (source: compiled by the author)

The CEO, a single member of the management board, who is appointed by the supervisory board, represents and directs the company. The supervisory board consists of seven members, a chairman and six other members all named by the city government as the shareholders assembly for company B.

Since 1996, a right-wing political party has collected the largest number of votes at local elections in the city. The city government consists of six members with one deputy mayor directly responsible for the provision of communal services, including water services in the city. This deputy mayor, a member of the right-wing political party, with a doctoral degree in economics, was active in the banking sector before entering politics some 14 years ago. He has also been a member of the *Riigikogu* (Estonian parliament) and a minister in the state government. He has proclaimed (e.g. during 2011 elections) his commitment to a liberal economic environment.

Since 1999, the position of the chairman of the supervisory board in company B has been occupied by a publicly active businessman, owner of the leading manufacturer of packaging materials in the Baltic region. As a member of the abovementioned right-wing party, he has been active in the management of the local party organization, belonged to city council and has been elected to the *Riigikogu*. The chairman of the board, holding a doctoral degree in biology, belongs to a number of governance bodies in several other nonprofit organizations and state-owned companies. He claims:

> "It's important that you have something to give. I feel that I don't have bright ideas anymore. The CEO has asked me not to leave.[51]"

The CEO, an engineering graduate, has been connected to company B all his working life; he began his career here as a development manager in 1994. Since 1997, when company B was registered as a public limited company, he has worked as the CEO and managing director. The CEO explains:

> "I can put my hand over my heart…what really holds me in the company is the possibility to technically develop a large area, which is not necessarily easy, but it is interesting."

As with the deputy mayor and the chairman of the supervisory board, the CEO is also a member of the ruling right-wing party. Since 1996, he has always been elected to the city council, and leads the faction of his party in the council. The CEO belongs to two standing committees in the city council, including the committee for municipal services, as advisory bodies to the city council. The committees review draft legislative acts, make proposals on them and initiate discussions. In 2008, he was also appointed as chairman of the supervisory board of a publicly owned water company in another municipality.

An organizational unit under the city government, the bureau of environmental service, is responsible for preparing and controlling the fulfilment of regulatory contracts signed between the city government and company B. This bureau, with one senior specialist involved in water services provision, also exercises formal control over the enforcement of the public water supply and sewerage act and local regulations for company B. The deputy mayor describes the duties of this senior specialist, who holds a university degree in amelioration and has 20 years experience at the city government, as follows:

> "She is more like a coordinator, who answers to incoming requests related to water services. For that she contacts with the water company, asks numbers and opinions and compiles official letters."

Board composition and functional emphasis

The distribution of seats on the supervisory board of company B has been agreed between the coalition parties according to their proportional representation in the city council. Board members have been appointed by the city government as proposed by the political parties in power. As a result of the last two elections in 2005 and 2009, the right-wing party as the winner of the elections was entitled to propose four candidates to the supervisory board of company B. The other coalition partners, two centre-left parties, shared the

[51] The chairman of the supervisory board left this position in company B in December 2010, three months after this interview with him.

remaining three seats in the supervisory board. Except for the chairman of the supervisory board, who did not participate in the 2009 local elections, all the other board members belong to their party factions in the city council. The deputy mayor responsible for communal services claims:

> "It's good that the board members belong to the city council. Municipal companies are not classical organizations established only for making money. These people know what is possible in the city and their decisions are influenced by a broader perspective."

In addition, the CEO of company B considers the participation of the supervisory board members in the work of the city council as an advantage from the point of view of company management:

> "This helps avoid incompetent attacks. At the board level, we can already have discussions and negotiations, not just instructions that now you have to do this and that. The board members can represent the company's position also in the city council."

Six out of the seven supervisory board members either have a university degree in economics or are actively involved in other businesses. In addition to the chairman, the right-wing party has also nominated another businessman to the supervisory board, who owns a well-known food manufacturing company in Estonia. The same party has also nominated a doctor who owns a private clinic and a university lecturer with previous business experience to represent the party on the board. The deputy mayor as one of the leaders of the ruling right-wing party explains:

> "We are lucky to have among us entrepreneurs, who have proved themselves under competitive conditions. Let's say that these are people that also have a good political nose when it comes to social issues."

The second biggest coalition partner is represented by a university professor of economics, a former member of the *Riigikog*u and one biotechnologist. The smallest coalition partner has nominated an experienced politician (former deputy mayor of the city in the 1990s) with management expertise in various business sectors (e.g. banking, food industry). All supervisory board members have fulfilled their duties on the board for years; most of them were appointed between 2005 and 2007. The chairman of the supervisory board addresses the importance of the board's stability in corporate governance:

> "If you change too many members at once and do it too often, they will not be able to understand the topic and take this job as a temporary duty. /.../ The more stable the political power in local government, the more can be achieved."

Another supervisory board member from a centre-left coalition party concurs:

> "The majority of the board members have a theoretical or practical background in economics and business, so the board works correctly, with good quality and functionally. It is stable and people are used to doing their work."

The supervisory board of company B has gathered for its regular meetings 8–11 times a year; all meetings are prepared by the chairman. A supervisory board member characterizes the role of the chairman:

> "He is the organizer, he is responsible, and he needs to keep his eyes on everything. It's easier for the other board members because with this chairman and CEO everything just works. It is good to sit on this board."

Supervisory board meetings are prepared and conducted according to an internal board regulation from 2002. There is neither specialisation between the supervisory board members nor specialist advisory committees within the board. The supervisory board meetings and discussions usually last one to three hours, with all materials on the items in the agenda distributed to the board members beforehand. One supervisory board member describes the board discussions:

> "All the members are able to read financial reports. Questions are mostly about relationships – where one or another figure comes from? And why? How do we go further from here? It's not a show, where we present how smart we are. When five members have their feet on ground and talk competently, there will be a good discussion."

Once a year the supervisory board approves the quarterly audit plans for company B and reports are prepared for the supervisory board on findings from the internal audits. Two or three times a year the supervisory board reviews and approves changes to the annual budget proposed by the CEO[52]. Every year the supervisory board reviews the list of unnecessary real-estate objects and authorizes the CEO to sell property. According to the statutes of the company, to sell immovable property and tangible fixed assets, or issue loans and guarantees in the name of company B, a consensus among all the supervisory board members is required.

Communication between the CEO and chairman of the supervisory board has not been limited to official board meetings, but they also communicate at other meetings (e.g. city council, party faction) and discuss issues related to company B, as necessary. The chairman of the supervisory board describes his cooperation with the CEO as a tandem effort:

[52] All changes in the annual budget that exceed 1300 euro are approved by the board.

> "The CEO knows the system, the business. The board has not been needed there. But there are some things that are easier to arrange for me. I just make a few calls."

Both the CEO and the chairman of the supervisory board have declared their commitment to stand first of all for the interests of company B. They have not let party political interests dominate over economic and managerial issues in decision-making in company B. The chairman of the supervisory board claims:

> "Sometimes it is necessary that the board makes a decision that is different from the will of city. We stand for this company; it must be profitable and sustainable. I have told the CEO that he fights for this company like for his own, everything is carefully considered and made so efficient by him."

At the same time, the CEO and the chairman have experienced political support from different city governments when planning large-scale investments for the modernisation of the water infrastructure. The CEO claims:

> "If I made a phone call today and asked for a supporting letter from the city government in order to gather additional money for investments, there would not be any problems. They would ask when I need it by. Furthermore, we haven't messed up anything either."

The deputy mayor responsible for municipal services in the city government has not been directly involved in the management of company B. He has visited the supervisory board meetings of company B only once. The deputy mayor concludes:

> "We, the members of the city government, prefer to stick to political governance, not to become board members in companies owned by the city."

Strategic planning and goals in water services

The last public water supply and sewerage system development plan (WDP) for 2007–2020 was approved by the city council in September 2006. The CEO and the supervisory board members of company B, except the chairman, participated in this council meeting, too. The proposed development plan was presented to the members of the city council by the deputy mayor responsible for communal services at the time. Previously the plan was discussed and approved by the committee for communal services at the city council, chaired by the CEO of company B, who answered the questions of the committee members, but abstained from voting.

As in 2000, when the previous version of the WDP was drafted, the city government delegated the preparation of the plan to company B. The WDP for 2007–2020 was compiled in company B with the support of an external consultant hired by the company. There was also a senior specialist from the bureau

of environmental services under the city government involved as a coordinator in the preparation process; however, information on the current situation, future challenges and investment needs in water service production was known by company B. The CEO adds:

> "In principle we fulfilled the functions of the city. No city government could have such competences like a water company. It is nice to have responsibility and to be trusted."

The WDP consists of 54 pages and formulates some general goals for company B as follows:

- Safe and secure water production – addresses protection and development needs in water catchment areas in order to ensure ground and drinking water quality.
- Reliable and available water supply network for all households – all citizens should be able to join the public water supply network and have access to drinking water that meets EU quality standards. Under this point a measurable target is also set: the percentage of water network leakages is to be reduced to 10%.
- Environmentally safe sewerage network – all citizens should be able to join the public sewerage network; sewage and storm water are to be treated according to established environmental norms. Storm water is to be canalized separately from wastewater so that energy costs are optimized.
- Modern environmentally friendly wastewater treatment process and the production of bio-energy – addresses the need to ensure the stability of water treatment, optimize the operation costs of the wastewater treatment plant, process leavings of the wastewater treatment that might be dangerous to the environment and establish a bio-energy production facility in the city.
- Satisfied clients – addresses customer orientation when providing services to clients and emphasizes the importance of rapid problem solving.
- Efficient organization and educated employees – addresses the role of open, effective and modern management; values the intellectual capital necessary for implementing new modern technical solutions and following the best customer service standards.

Moreover, in the following sections, the WDP sheds light on how the goals will be achieved by pointing out planned activities at each stage of the production cycle with indicative time frames and approximate costs. The development plan ends with an appendix titled "Indicators for the evaluation of the fulfilment of the WDP," which names 19 different performance indicators that can be used to assess the achievement of these goals. The proposed indicators, stemming from EU regulations, are expected to characterize the conditions of the water infrastructure, the environment, quality, price and consumer issues in water services provision. Nevertheless, there are neither specific target values nor clear defini-

tions of the performance indicators, which would make it possible to assess the progress of company B.

According to the WDP, the total investments needed for water and wastewater infrastructure development for 2007–2020 is approximately 91 million euros, which is about 12 times greater than the annual turnover of company B in 2009. Most of the investments described in the development plan are to be financed by EU support funds, bank credits and the income of company B. The city government is expected to provide one half of the investments (i.e. 13 million euros) needed for the construction of the storm water system in the city for 2007–2020. The WDP 2007–2020 does not provide any indication of the dynamics of future water tariffs in light of the planned investments. The deputy mayor describes the WDP as comprising a vision for water services:

> "If we sum up all investments in the development plan, then the total amount will be bigger than the funds available to us. It is a kind of dream, a goal that cannot be fulfilled 100%. It rather shows the direction, where we must move."

The CEO approaches the development plan as a document where all the major strategic goals of company B must be included; however, when drafting the plan he considered it a necessity for qualifying for EU support funds in the future. Consequently, all potential renovation and construction objects were included in the plan. The CEO claims:

> "In regard to the development plans, then you have some very serious big goals, but the rest is written to get the plan approved in the city council."

One supervisory board member from company B, an experienced member of the city council, concludes:

> "EU money is provided only for projects included in development plans. Not to miss anything, everything will be written there. So the plans become unrealistic; it is not possible to fulfil them completely."

Company B does not have a separate long-term strategic plan besides the WDP. Considering the four or five year medium-term perspective of the WDP, the CEO of company B presents the supervisory board a more detailed plan describing renovation and construction works for approval within the framework of the annual budget.

Services contract

In 2001, the city government, represented by a deputy mayor, and company B, represented by the CEO, signed a 15-year services contract that regulates the rights and obligations of the parties in relation to water services provision in the city. The services contract, the main part consisting of six pages, confirms the

water company's general obligation to ensure the provision of water and sewerage services to its customers. The contract also stipulates that company B must develop the water supply and sewerage network in compliance with related development plans approved by the city council (i.e. the WDP). As an appendix to the contract prepared in company B, there was attached a table of planned annual investments and objects for 2001–2015 based on the previous WDP 2000–2012. For each investment object in the appendix potential sources of financing are marked (e.g. water tariff, city budget and grant funds).

In terms of water quality and wastewater treatment standards, the services contract prescribes that company B has to meet the quality standard set in the national laws or other state level legal acts. There are no specific, measurable or time-bound customer service standards stipulated in the services contract. The contract does not provide any specific reaction time that company B must adhere to in liquidating water leakages or breakages, stating only that the company must react immediately in the case of a large-scale breakdown in water supply systems.

In regard to establishing water prices and charges for connecting to the public water supply and sewerage system, the services contract briefly refers to the conditions of the public water supply and sewerage act and stipulates in a separate point that the city government will consider the WDP and the attached investment plan when establishing water prices in the future.

Determination of water price and compensation for investments

In April 1999, the city council passed a regulation on the establishment of water and wastewater prices (hereafter 'water prices'), which has authorized the city government to determine the prices based on requests from the water company. Since then company B has prepared three requests for water price increases that have all been approved by the city government. Before the CEO submitted the requests to the city government, the supervisory board of company B discussed and approved them. Members of the supervisory board discuss possible adjustments to water prices on a regular basis as part of the revenue planning for the next budget year. If the supervisory board comes to the conclusion that a price increase is needed in the future, the CEO is asked to prepare a detailed calculation and scenario analysis of the influence of potential water price adjustments for company B.

While company B changed water prices almost every year in the 1990's, during the last decade increases in water prices have occurred only after several years. A member of the supervisory board explains:

> "Until the company can manage at the current tariffs, we will not go for a price increase. We are not in pursuit of high profits. We want to provide a good service at a relatively low price, and still the water company must be profitable."

The deputy major notes:

> "Changes in water prices influence people's well-being. This is a political issue and one should deal with it as rarely as possible. But tariffs must allow a normal profit for the company in order to ensure sustainability."

At the beginning of 2001, water prices for residential consumers increased by 28%; however, they still paid less than businesses and other organizations for a cubic metre of water and sewage in the city. According to the WDP 2000–2012, with reference to the public water supply and sewerage act, the water price for residential and commercial consumers was considered to be the same level by 2002. The price gap was removed with the next price increase in February 2004, when the water price for residential customers was increased by 15% up to 1.31 euros per cubic metre (including VAT). The CEO and CFO of company B instigated the price increase as necessary self-financing for infrastructure modernisation with EU support funds, warning that otherwise the European Commission would "freeze" the support funds available to the company. The last price adjustment from July 2006 raised water prices by 17%, which the CEO justified in the city government as being necessary to cover remarkable increases in some costs (e.g. pollution fees 2.8 times, electricity by 25%, fuel by 60%, labour costs) since the previous price change in 2004. In addition, the price increase was motivated by ongoing infrastructure renovation projects that require additional self-financing from company B. The city government, even if not required, consulted with all the political parties represented in the city council before approving the price increase in 2006. Since then, company B has not applied for a price increase during the observation period. The CEO claims:

> "Every year we have been a bit more efficient and looked for opportunities for cost savings. And of course the arrival of the economic crisis gave us an opportunity to review costs."

Nevertheless, not all price requests presented by the CEO of company B have been approved by the politicians in the city government. In 1999, when the present CEO as a new manager in the water company approached the city government with a proposal to introduce a fixed monthly fee to the tariff structure, a political conflict erupted between the coalition partners in the city at that time – despite the supervisory board previously agreeing on the introduction of a fixed monthly fee in order to respond to the rapid decease in water consumption (33% over the last three years) and stabilize the cash flow for company B. All in all, because of political resistance, the tariff structure remained unchanged, and today residential users are charged for water services based only on cubic metres of water consumed. The deputy mayor concludes:

> "While water price is a politically sensitive issue, you can increase it when there is a will. You cannot do it before elections; it must be done right after elections."

However, according to the regulation on the establishment of water and wastewater prices from 1999, when applying for water price changes company B had to present the city government with (1) the motivation for any price change with related calculations, (2) last year's audited annual report of the company, and (3) the cost and revenue forecast for the next year. The regulation does not specify how price calculations should be conducted and what costs should be included. The city government has not established any particular standardized application form for company B. In fact, the application has been supplemented with a cash-flow prognosis and budget forecast that considers all revenues and costs (i.e. operational costs, depreciation, financial costs and taxes). The CEO of company B is pleased that the responsibility for establishing prices was removed to the Estonian Competition Authority from November 2010. He says:

> "The local government is not competent in this field. Even our city, which has relatively more resources, is not able to assess price proposals reasonably. All the time they looked at it from a political point of view."

Budgeting and financing

The financial manager (CFO) of company B is in charge of preparing the annual budget for the water company. He prepares the necessary budget forms and distributes them to the eleven departments of the company for completion with initial budget figures. Infrastructure specialists provide the initial investment figures for the next budget year based on previously defined strategic objectives and after considering unfinished renovations and emergency repairs. Consequently, the CFO conducts meetings with the managers and specialists of the departments in order to identify opportunities for cost savings and efficiency improvements against actual results in previous budget periods. In total there are around 20 employees involved in the budget preparation in company B from July/August through to December until the supervisory board approves the budget for the next year. The CEO claims:

> "The budget preparation is a real breaking down. People have to do this by themselves; they are responsible for fulfilling their plans."

The investment budget comprises a list of renovation and construction objects together with rationales, budgeted costs and expected economic impact. The CEO explains the economic considerations behind the investment budget:

> "Some investments don't have a direct economic effect, but they are needed for quality improvement. But some other, like the construction of the storm water system, reduce wastewater load and costs for us.."

The supervisory board of company B focuses primarily on changes in major cost and income items, compared to the previous budget year, and on planned

investment projects, when discussing the budget proposed by the CEO. The CEO claims:

> "The board reviews the budget proposal, but trusts the specialists. They want to know why we do one or other investment. Actually I cannot say, which street is more important to renovate first. My specialists say that."

The annual budget for company B usually gets approved by the supervisory board in December, when the city council has agreed on the city budget and investment projects for the coming year. Such timing still allows the management of company B to adjust the order of their infrastructure renovation list and synchronize the reconstruction of the water and sewerage network with other infrastructure (e.g. streets) construction works in the city.

There is one regular income flow between company B and the city government: the fee for storm water canalization and treatment paid by the city government to the water company. At the beginning of 2002, the city government delivered the entire storm water system over to company B, which then became responsible for its maintenance and development. During the annual budgeting processes, the city government has included into the city budget an amount for the costs associated with the canalization and treatment of storm water (e.g. 256 000 euro in 2009) relying on requests received from company B. Still, the amounts have always been smaller than those requested by company B and remain significantly below the initially planned investment level of 640 000 euro annually from 2007 to 2012 for the development of the storm water network in the city. Nevertheless, half of the collected storm water was canalized via a separate network constructed by company B by 2009. The CEO points out:

> "If there is no money, we don't do anything in this domain or we do just something for our profit. We get some money from the city for storm water, but many do not at all."

Company B, which owns all the water infrastructure assets in the city, is considered to be one of the most active users[53] of EU grants for water and sewerage infrastructure modernisation in Estonia. From 1994 to 2009, a total of 63.9 million euros has been invested in the water and wastewater infrastructure of company B. The management of company B prepared all the required documents and applied for the support funds and credits from international financial organizations (e.g. EBRD). The required self-financing for the investment projects financed through foreign grants has been, among other sources (e.g. the city government, central government), gathered from the reinvested profits of company B.

[53] Company B has been provided with different EU grants in amount of 31.2 million euro between 2000 and 2010.

By the beginning of the 1990s, the water and wastewater infrastructure in the city had deteriorated and it was the only large urban settlement in the Baltic countries without any wastewater treatment plant at all. In 1994, with the financial support of the Swiss Confederation, company B re-commenced the construction of its wastewater treatment plant (total investment – 9.14 million euros), which began mechanical treatment of the sewage in 1996. In 1998, after the construction of a new large-scale sewage collector, financed by credit from the EBRD, already approximately 80% of the sewage produced in the city was directed to the wastewater treatment plant. In 1999, biological treatment of sewage in the wastewater treatment plan was also launched. With EU funds available for Estonia another large sewage collector (5.8 million euros) was constructed by 2004, and since then, all wastewater is treated in the wastewater treatment plant. In the same year, company B, again with support of EU funds, started a large-scale investment project for the renovation of the network (19.8 million euros) that resulted in more than 100 kilometres of new water and wastewater pipes across the city in 2006. By the end of 2008, the last local district within the city was connected to the central water and sewerage network. In addition, between 1994 and 2009, two new water purification stations were constructed and, as part of small-sized investment projects, a total of approximately 200 kilometres of water and wastewater pipes had been renovated in the city. By spring 2009, this was the first city in Estonia that met all the requirements of the EU directives (i.e. 98/83 EU, 91/271/EEC) on water quality and environmental control.

Reporting and accountability

For regular supervisory board meetings the members of the supervisory board receive a financial report from the CEO that makes it possible for them to get an overview of monthly financial results of company B. The report includes a profit and loss statement, balance sheet and information on budget fulfilment. In addition to the financial reports the CEO informs the supervisory board on progress in conducting planned development projects of the company.

After the end of each financial year, as required by Estonian Commercial Code, the management of company B has prepared the annual accounts and management report, which then together have been presented to the board members for their approval. The structure and the volume of the management (activity) reports have not changed much over the last decade. The management reports, presented as two text pages in the beginning of the annual reports without comparative data tables or figures included reveal some non-financial performance information on company B as summarized in Table 21 below.

Table 21. Performance indicators in management reports for 2006–2009

Type of information	Performance dimensions	Performance indicators	2006	2007	2008	2009
Non-financial performance	Water quality compliance	Compliance ratio, quality indicators	–	–	–	–
	Sewage treatment compliance	Compliance ratio, treatment levels	–	–	–	–
	Customers	Number of customers, end-users	–	–	–	–
		Customer satisfaction index	–	–	–	–
		Customers service indicators	–	–	–	–
	Price	Current water and sewage price (euro/m3)	–	–	–	–
		Typical residential bill; affordability index	–	–	–	–
	Production volume	Drinking water sold (m3)	X	X	X	X
		Sewage collected (m3)	X	X	X	X
		Sewage treated (m3)	X	X	X	X
		Produced sludge (tons)	X	X	X	X
	Internal processes	Number of water meters replaced	X	X	X	X
		Number of calls to customers re: accidents, interruptions	X	X	X	X
		Number of water meters controlled	X	X	X	–
	Assets	Number of water main breaks and sewer chokes	X	X	X	X
		Water loss (%)	–	–	–	–
		Sewerage and storm water pipes cleaned (km)	X	X	X	X
		Length of constructed and renovated water and sewerage pipes (km)	X	X	X	X
	Efficiency	Efficiency of the production technology (e.g. energy consumption to outputs)	–	–	–	–
Financial performance	Key financial performance indicators	Sales margins (%) – gross margin, operating margin, net margin	–	–	–	–
		ROA, ROE, ROCE, ROI (%)	–	–	–	–
		Current ratio (%)	–	–	–	–

Source: compiled by the author based on data from annual reports

Table 21 shows that the performance information in the management reports is mostly related to annual production volumes (m3) and infrastructure renovation (km) and maintenance (times). It also reveals that the management reports of company B do not comprise measurable information on changes in the quality of water services, production efficiency or water services affordability in the city.

Company B's annual report, after being signed by the supervisory board members, is presented to the city government as the shareholders assembly for approval at the annual general meeting. Both, the chairman of the supervisory board and the CEO participate in these meetings, the chairman presenting an overview of the business activities of company B in the previous year. As a part of the meetings the chairman of the supervisory board also informs the city government on the work of the board (i.e. number of meetings conducted, important decisions made etc.) during the last year and presents a written report on this. This short report by the chairman of the supervisory board over two pages is attached to the annual reports of company B and submitted to the Estonian Business Register.

Besides the mandatory annual reports, there is no interim reporting on financial results by the CEO or the chairman of the supervisory board to the city government. In regard to reporting on non-financial results, the specialists in company B provide the environmental bureau under the city government with data on regular basis on actual volumes of water intake (m3) and water usage (m3) for statistics to be gathered by the bureau. Because the services contract the city government and company B does not include any particular quality or customer service requirements, no related reporting obligation stems from it for company B either. According to the deputy mayor, the city government does not consider it necessary to exercise more control over company B:

> "Our business model relies very much on the trustworthy and ambitious management of the water company. The CEO, also a member of the city council, has been in local politics for a long time. This man is a doer…through that the trust is ensured. Besides, all the board members belong to the city council."

However, in line with the WDP 2007–2020, the committee of internal audits at the city council discusses and evaluates the fulfilment of this long-term development plan in one of its meetings at the beginning each year. In those meetings, the head of the municipal services department under the city government together with the CEO or alone, makes a presentation on the development projects and answers questions from the committee members. To do that the CEO is previously asked to report to the city government on progress made by company B in infrastructure modernisation and achieving the strategic goals of the WDP. After the discussion, the audit committee at the city council has always agreed to accept the progress made by the city government and company B in developing the water and sewerage systems. A supervisory board member describes the discussions in the city council as follows:

> "These are not substantial. Those who know what is the purpose of the development plan hold it in derision. Opposition parties ask row by row, why haven't you done exactly this and this, but actually they just try to present themselves."

The city government and company B publish information for the general public (i.e. consumers) on their websites on the internet, where citizens can find selected performance information on water services provision in the city as shown in Table 22.

As shown in Table 22, company B only publishes non-financial performance information (i.e. management report from the last year complemented with quality indicators and water prices) on its internet homepage. Information on the financial performance of company B is missing there. The consolidated annual reports of the city government, published on its internet homepage, reveal both some non-financial and financial information on the performance of company B. Still, neither the city government nor company B present performance data consistently for longer periods to facilitate evaluating the progress made by them in water services provision.

Nevertheless, it is the financial performance of company B that determines the CEO's remuneration for his work in the company. The supervisory board has agreed that the salary of the CEO comprises both a fixed and a variable component. The variable pay amounting to 50% of the fixed one depends primarily on the profitability of company B, which is evaluated using budget figures on a quarterly basis. The chairman of the supervisory board claims:

> "If the budget is fulfilled and profitability is there, the board makes the decision. Problems with service delivery can emotionally influence the pay. Such package motivates him to perform and show results that we expect."

In addition, the CEO can earn extra bonuses at the end of year equal to two monthly salaries in the case of good corporate performance (i.e. meeting profit targets from the budget). With just one exception in the past, the CEO has earned all the quarterly and annual bonuses available to him in company B. The total amount of annual salary paid to the CEO, 51 900 euros in 2009, is revealed in the annual report of company B and is also published on the internet homepage of the city government.

Table 22. Performance information published on internet homepages

Type of information	Performance dimensions	Performance indicators	Company B website	City government website
Non-financial performance	Water quality compliance	Compliance ratio, quality indicators	X	X
	Sewage treatment compliance	Pollution load	–	X
	Customer	Number of customers, end-users	–	–
		Customer satisfaction index	–	–
		Customers service indicators	–	–
	Price	Current water and sewage price (euro/m3)	X	X
		Typical residential bill, affordability index	–	–
	Production volume	Water intake (m3/year)	–	X
		Water usage by purpose (m3/year)	–	X
		Drinking water sold (m3)	X	X
		Treated sewage output (m3)	X	X
		Produced sludge (tons)	X	–
	Internal processes	Number of water meters replaced	X	–
		Number of calls to customers regarding accidents	X	–
		Number of water meters controlled	–	–
	Assets	Number of water main breaks and sewer chokes	X	–
		Water loss (%)	–	–
		Sewerage and storm water pipes cleaned (km)	X	–
		Length of constructed/renovated water and sewerage pipes (km)	X	X
	Efficiency	Efficiency ratios of production	–	–
Financial performance	Key financial performance indicators of company B	Operating revenue and costs (euro)	–	X
		Financial income and costs (euro)	–	X
		Net profit (euro)	–	X
		Total assets, liabilities & equity capital (euro)	–	X
		Financial ratios (ROI, ROE, ROA, ROCE)	–	–

Source: compiled by the author based on data from the websites. Last accessed 16 May 2011

Financial performance

The annual financial results of company B have been relatively volatile during the decade from 2000 to 2009. As revealed in Table 23, there can be distinguished two periods or stages in the dynamics of financial performance: 2000–2003 when a loss was made and 2004 onwards when a profit was made.

During the first period, each year from 2000 to 2003, company B incurred a loss. However, the operating revenue increased by 29% during that period and by 2003 the net loss was seven times smaller than in 2000. The change was partly contingent on a 28% increase in water prices for residential customers at the beginning of 2001. By extending the water and sewerage network, company B was also able to collect relatively more (+340% in 2001; +177% in 2002) revenues through connection charges. At the same time, the management of company B continued to take opportunities to improve efficiency by reducing water leakages (30% in 1999 vs. 13% in 2003) through the renovation of the pipe network, introducing new energy saving technologies and selling realestate unnecessary for water services production.

Moreover, the financial department of company B responsible for corporate cash-management was allowed under a special supervisory board regulation to buy and sell the bonds of both Estonian and international foreign companies from 2003. The value of the security portfolio owned by company B had increased by more than double by the end December 2003 against 2000 (see Table 23). Company B has been rather well capitalized with its owner's equity comprising 70%–86% of total liabilities and equity capital.

At the beginning of the second period in 2004, company B was allowed to convert 2.2 million euros in non-paid pollution fees (as "other operating revenues") into revenues after concluding some agreed infrastructure constructions. In 2002, company B made an agreement on the non-payment of pollution fees with the Ministry of the Environment and was committed to investing 1.92 million euros by 2004 in its sewerage and wastewater treatment plant on account of the fee relief. Consequently, company B finished 2004 with an approximately 2 million euro net profit against a 246 thousand euro net loss the year before. Moreover, in 2005 after finishing the construction of its second large wastewater collector, all wastewater in the city was being treated in the wastewater treatment plant and the amount of pollution fees paid by company B decreased by more than four times (i.e. –200 thousand euros). However, as a result of cash-management, company B earned an all-time high in interest income of 191 thousand euros on its security portfolio in 2005.

Table 23. Financial information in company B (thousand euros)

Year	Operating revenue	Operating profit	Net profit	Total costs	Capital investments	Total assets	Equity capital	Financial revenue	Securities	Net profit margin (ROS)
2000	4 274	–350	–508	4 849	1 291	36 119	31 083	67	1 179	–12%
2001	5 125	–220	–211	5 557	1 038	36 299	31 261	221	1 637	–4%
2002	5 439	–441	–372	6 036	2 312	37 124	29 964	226	2 852	–7%
2003	5 524	–246	–67	5 878	10 000	42 704	29 897	287	2 646	–1%
2004	8 065	1 994	2 002	6 153	3 351	38 531	31 415	248	3 409	25%
2005	5 750	430	557	5 385	11 665	47 951	31 972	193	3 207	10%
2006	9 570	4 051	4 166	5 555	11 393	57 878	36 138	150	4 417	44%
2007	7 784	1 342	1 507	6 455	10 976	64 050	37 645	178	2 427	19%
2008	7 638	615	724	7 023	5 762	65 742	38 369	110	1 319	9%
2009	7 409	530	567	6 879	3 740	65 680	38 936	38	596	8%

Note: all financial data presented as non-consolidated on company B
Source: compiled by the author based on annual reports

Financial results in 2006 differed significantly from the results of previous and forthcoming years – the largest operational revenue of almost 9.6 million euros and 4.2 million euros in net profit. In that year, company B sold a 57.5% stake in a subsidiary, where a majority stake was acquired in 2001. This subsidiary as a holding-firm had mediated and was responsible for the administration of an international credit programme from the 1990s aimed at the modernisation of the wastewater treatment systems in a number of Estonian municipalities among others in the case city. The CEO of company B explains the motivation behind the decision to acquire the majority stake in this holding company:

> "Every year we paid more and more administration fees for our credit to that company. For us it was cheaper to buy these shares and readjust the company. /…/ We saw the potential."

Company B earned 2.2 million euros profit from selling the shares of its subsidiary (i.e. 11 times more than their book value) in a public auction in 2006. Consequently, company B repaid all its investment loans ahead of schedule from the profit earned. The CEO states:

> "What we did, was that we just reorganized the firm, increased its value and brought it to the market. We managed to free our own business from some long-term costs."

In the middle of 2006, the last water price increase (+17%) took place, which together with a general rise in water consumption increased corporate operating revenues by 13.8%. In 2007, when the Estonian economy was booming for the last year before the global economic crisis, company B continued to increase it sales revenues from water production (+5.1%), from wastewater collection (+8.1%) and from connection charges (+200%). At the same time, under inflationary conditions inherent to the rapid economic growth, the operating costs of company B increased by 17% in 2007. After repaying the investment loans, the financial income of company B significantly exceeded the financial costs (i.e. 12 times in 2007) without any losses from financial investments so far.

In 2008 and 2009, the economic boom was replaced by the economic recession in Estonia. As opposed to previous years, the 2008 annual report warns of a calculated loss (–115 thousand euros) on particular bonds in the security portfolio; however, company B earned approximately 110 thousand euros in financial income in 2008. By the end of 2009, company B had largely realised its security portfolio. The 2009 annual report reveals a calculated loss of 50 thousand euros on bond investments. At the beginning of 2011, company B commenced bankruptcy procedures against the Estonian holding company, which was not able to redeem its bonds in the amount of 404 000 euros. The CEO of company B claimed in the media that during the last 12 years the company had earned 4.4 million euros as financial income (12% yield) on different bonds, which has allowed them to keep water prices 20% lower and

enabled them to build storm water systems in the city. The newly elected chairman of the supervisory board, a previous supervisory board member, argued in the media:

> "Everyone, who has dealt with securities, knows that one cannot always win."

All in all, the city government and the supervisory board declared satisfaction with the financial performance of company B in their statements. Company B has never distributed dividends to its shareholder, instead the city government has reinvested the earned profits back into the company (e.g. for constructing storm water systems). The chairman of the supervisory board points out:

> "If you distribute dividends, you need to pay a lot of taxes to the state. By leaving the profits in the water company, the city can get back more for that money."

The city government is not considering changes in the ownership structure of company B. The deputy mayor responsible for water and sewerage services provision says:

> "It's the last thing to happen. I don't know what should force us to do that."

Non-financial performance

During the decade observed in this study, the water prices increased more than 70% for residential customers of company B; however, the price level remained below the Estonian average in 2009. The average water bill comprised approximately 1.2–1.4% of the average household's disposable income (see Appendix 8), which remains clearly below the recommended threshold of 3–5%. As shown in Appendix 8, the value of the affordability indicator has been below the Estonian average for company B, this gap having increased. Moreover, water prices established for legal entities operating in the city are the same as for residential customers (see Appendix 9).

In regard to access to public water services, 99.9% of the population is connected to the central water supply and sewerage system of company B. As a result of network extension, the access rate has increased by five percentage points during the last 10 years. Under conditions established by the city council, the charges for connection are paid by those being connected to the public water supply and sewerage system. Hence, the city government does not compensate the cost of connection charges to households for joining the public sewerage system. However, since 2001, households can apply for a credit (interest rate 5–6%, term up to 10 years) from a specialised municipal foundation in order to finance their connection charges.

The pollution of reservoirs caused by untreated wastewater was still a serious issue for company B in 2004. Since then all wastewater produced by

citizens and companies in the city gets treated in the wastewater treatment plant and meets all established environmental standards. The quality of drinking water, especially the high concentration of iron, was an issue for water users 10 years ago. Even in 2005 and 2006, the concentration of iron in the drinking water did not meet the standards everywhere in the city. Still, the quality of drinking water improved step-by-step after the construction of two water purification stations and the replacement of water pipes. By 2007, the problem with the concentration of iron was mostly solved. In terms of microbiological and chemical quality indicators, the quality of the drinking water meets all the national and EU quality standards in the city.

Summary of the case study

In the present case, the CEO and the chairman of the supervisory board as key actors form a tandem team, which in interaction with other supervisory board members and the city government, directs the performance of water services provision. The CEO has the power and economic incentives (i.e. profit rights) available to pursue the efficient management of company B. The supervisory board has a clearly stated role in power delegation by executing real control (approval) rights over the CEO in company B. It is the supervisory board, where representatives of the coalition parties agree on the strategic business objectives of company B, and the CEO is accountable to the supervisory board for achieving them. The shareholders assembly (politicians of the city government) has distanced itself from the management of company B, fulfilling only its mandatory duties (e.g. approving annual statements) according to the law. The formal corporate governance structure builds only one part of the broader context in which the CEO and the chairman of the supervisory board (members of the same ruling political party and the city council) communicate with each other and represent their interests.

The CEO with all his experience in company B took this office in 1997 aiming to turn it into a modern profitable flagship water business. In order to reach this aim, the renewal of the water infrastructure and production facilities was seen as an inevitable precondition, which all key actors agreed upon. The city government and the appointed supervisory board members (i.e. politicians) were mostly interested in ensuring good quality drinking water and the treatment of wastewater, but they strongly shared the idea (ideology) that publicly owned companies should earn a profit in order maintain financial sustainability. The efforts of the entrepreneurial CEO to apply for international credits and grants were supported by the city government, even if an increase in water prices was an imminent condition set by the financiers. The stability of the political coalition in power has made it possible to keep the supervisory board's composition unchanged and committed to performance over the years in company B. In terms of decision-making on the supervisory board, where most of the board members had a business background or a university degree in

economics, rational economic considerations have prevailed over populist ideas or direct party political interference. Moreover, the city government as the owner of company B has not been in pursuit of dividend payments from its ownership and has reinvested all the profits back into the water company.

All key actors looked at the process of long-term planning through the preparation of the WDP as a kind of bureaucratic requirement that must be met in order to apply for grants. The strategic plan is seen as a vision where the link between goals and funds is tenuous. The plan was developed by the CEO and his management team, which in fact comprised the competence centre of water services provision for the city government. The CEO like the supervisory board members considers the WDP as a wish-list of future investments that the management can refer to when preparing annual investment budgets.

The contractor-provider relationship between the city government and company B is regulated by a services contract, which does not stipulate any specific and measurable customer service or quality targets for company B. Consequently, no related reporting obligation stems from the contract for company B. Regular performance reporting from company B to the city government is limited to (a) the annual report to the annual general meeting with a focus on financial results[54] and (b) the report to the environmental bureau on the fulfilment of strategic WDP goals with a focus on annual investment projects. Transparency and accountability for performance to the general public has been relatively low both on the part of the management of company B and the city government (see Table 22, p. 178). The environmental bureau under the city government has a limited capacity to exert control role over company B and the only responsible specialist in the bureau fulfils a support function for the management of company B in communication with external partners (e.g. state agencies).

Discussions of price adjustments on the supervisory board have focused primarily on their potential effects on the company's cash flow (i.e. input) in light of future construction and renovation works (i.e. outputs). Influenced by the political desire to avoid customer dissatisfaction (i.e. among voters) with price increases, water price adjustments have not been considered on an annual basis by the supervisory board, but after several years and under inflationary conditions to ensure cost recovery for company B over a relatively longer period of time. Under the conditions of relatively liberal price regulations (no specific contractual price formula) with the politicians on the supervisory board, there has not been any conflict between the city government (i.e. regulator) and the management of company B in the last decade, when the latter has requested water price increases. Consequently, company B has managed to earn profits

[54] Management report compiled by the CEO as a part of the company annual report mainly provides some figures on production volumes, on conditions of water supply and sewerage network (e.g. interruptions, chokes) and short information on conducted and on-going investment projects.

(shareholder perspective) and improve water and wastewater quality (stakeholder perspective) in the city. Moreover, the affordability index in case B is clearly below the Estonian average and that without cross-subsidizing residential prices at the expense of commercial prices. Among other possible reasons, the financial performance of company B has improved, because:

- Company B finished most of its large investment projects before the economic boom, when the construction prices were relatively high. Consequently, the customers of company B pay relatively less for water services, which makes price adjustments possible in the future, if necessary to finance new developments.
- Because the city government as a shareholder has reinvested all profits into company B and has additionally paid for storm water collection and treatment from the city budget, company B has been able to cover the related costs.
- Driven by the desire to avoid relatively high interests and administration fees for investment loans, company B acquired the majority ownership in the consultancy firm that after a reorganization was sold to private investors at a remarkable profit. Consequently, company B immediately repaid, prior to the due dates, all long-term investment loans and released itself from related interest costs.
- The entrepreneurial managers of company B have constantly invested the company's free cash into bonds (local and international), which have generated extra financial income. However, during the economic crisis, company B suffered losses from bond investments, which raises the question of how conservative or risk averse a publicly owned water company should be.

However, the performance of company B has improved over the years without a strong accountability system established between company B and the departments under the city government. The present governance practice rests on the trust between the members of the city government and the tandem team of the CEO and the chairman of the supervisory board. The CEO has gained the trust of the politicians in power through the performance shown by company B over the years and with his active participation in the work of the city council and local party organization.

All in all, this case reveals that public ownership of a water monopoly without direct party political interference in executive and supervisory board decision-making, when supported by elements of performance management typical of the private sector (e.g. results-based pay), could lead to relatively good financial and non-financial performance. The public ownership of company B facilitated (e.g. access to capital, smooth price adjustment) rather than hindered the development of water and sewerage systems in the city.

3.3.3. Case C

Governance structure and key actors

Case company C was founded in 1993 during the restructuring of a construction materials factory under going privatisation, when the factory's auxiliary operations, including water services provision for a neighbouring city, was separated from the core business and transferred to a separate legal entity. After privatisation, company C, which was established to operate water and wastewater systems, ended up in the hands of local private individuals. As a result of the privatisation and the subsequent acquisition of other assets, the majority of the water and sewerage infrastructure assets located in the city belongs to company C. However, the city government has a stake in fixed assets since they own some water and wastewater pipes, a few bore-hole pumping stations, a water purification station and a wastewater treatment plant. The city, serviced by company C, was a typical mono-functional settlement in the Soviet period. It is one of the smallest cities in Estonia, and the population has decreased annually by 1% over the last decade.

The current shareholders, two Estonian private individuals owning 50% each, entered the company in April 2001 by acquiring first 64% of its shares from individuals who had owned the company since its privatisation. The purchase transaction was completed within a few days after the current CEO proposed buying the shares of company C. As the CEO explains:

> "Previously, I had only seen the financial figures of the company. Then I came to the company, looked around…Oh! For that price it could be even bought."

Company C operates in the legal form of a public limited company, and according to the Commercial Code, in addition to the shareholders assembly, has established a supervisory board and a management board as shown in Figure 24.

One of the two shareholders, taking care of the daily management in company C, is a member of the management board (i.e. the CEO) and the other has taken the position of chairman of the supervisory board. In total, the supervisory board consists of three members, including the chairman, a project manager working for the company and one external member. The members of the supervisory board gather for meetings once a quarter, but according to the articles of association, the CEO is not dependent on the decisions of the supervisory board. The CEO admits that the supervisory board is viewed as a legal formality required by the law and company C could easily operate in the form of a private limited company without the supervisory board. He illustrates the role of the supervisory board as follows:

> "In the case of unpleasant issues, it is always good to say that the board has discussed it and decided."

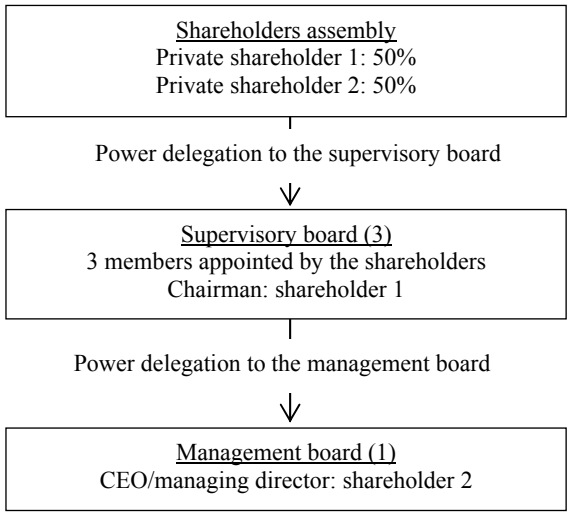


Figure 24. Control delegation in company C (source: compiled by the author)

The shareholders in company C share a common work history in a former government agency responsible for the privatisation of state owned companies in the second half of the 1990s. From that time they both embody miscellaneous expertise in reorganizing, merging and selling companies in different industries. The chairman of the supervisory board is active in another, family owned water company located in another region of the country, where he works as an environmental specialist and is a member of the management board. However, the owners of company C meet three to five times a week to discuss business issues. They have common business interests through co-ownership in an infrastructure construction company and a multi-utility company, where each owns half the shares.

The work of the city government is organized by the city mayor – first voted to this position by the city council in 2002. Later he was reappointed as mayor after local elections in 2005 and 2009 by the city council. The mayor graduated from a technical university as an engineer, and since then has worked first as an advisor in construction and utility services for the city government. Considering his background and the fact that there are no deputy mayors in the city government, the mayor himself has been actively involved in water services governance. In addition to the mayor, one construction specialist is responsible for solving water and sewerage infrastructure development issues at the city government on a daily basis.

During the last decade, the 15 seats in the city council have been divided between three to five political parties or electoral alliances; most of mandates collected by a centre-left party. In the 2005 local elections, the present mayor was elected to the city council in the list of the winning centre-left party, which

he left four years later, just a few months before the 2009 elections. Personally for him, now as a member of a right-wing party, the 2009 elections were a success, since he more than doubled the number of votes he collected in comparison with previous elections.

Strategic planning and goals in water services

The recent public water supply and sewerage system development plan (WDP) 2009–2025 was approved unanimously by the city council in February 2010. As opposed to 2002, when the previous version of the development plan was prepared, this time the city government hired an external consultancy company in November 2008 to prepare the plan because the requirements set for the plan had become stricter. At the time the consultant was preparing the new WDP, company C and the city government were arguing over water prices in the courts, as the city government had rejected a number of price increases proposed by the water company since May 2008. During the preparation of the WDP, the city government initially avoided any detailed price mechanism being written into the new development plan. The mayor was afraid that the water company could use this during the ongoing lawsuit to justify the requested price increases. However, while price determination was a mandatory part of the WDP required by the state authorities, price dynamics for the years ahead was included in the final version of the plan. The mayor instructed the consultant that the WDP must clearly state that the level of future water prices depends on the volume of investments in modernising the water and wastewater system.

The investments needed to renovate and build water and wastewater infrastructure in the city was calculated by the consultant based on technical information along with investment priorities received from the CEO of company C. The city government did not make changes into this part of the investments proposed by the consultant. The WDP, consisting of more than 100 pages, emphasizes the following key issues regarding water services in the city:

- Most of water pipes are older than 30 years and partly exceed their life expectancy. Leaks and wasted water resources is the inevitable consequence.
- Concentration of radionuclide in the drinking water exceeds permitted norms by 4 to 10 times.
- The water supply system does not ensure the required water volume during hours of heavy water consumption and in the case of fire.
- In some districts of the city, wastewater is directed into ditches without any treatment.

A list of renovation and construction works to be conducted in the city is provided to resolve the majority of these problems, which are chronologically divided into three priority stages: 2009–2013, 2014–2020 and 2021–2025. The WDP states that the division of future renovation activities into these stages was carried out according to how each activity helps meet the water quality and

environmental requirements stemming from the EU directives. The expected results of the (re-)construction activities are mostly described through direct output measures such as a number of kilometres renovated or constructed water and wastewater pipes in certain areas (streets) in the city.

The CEO of company C approached the preparation of the WDP as requirement for qualifying for EU support in the future; therefore, all potential renovation and construction objects were included in the list of necessary works sent to the consultant drafting the plan. The CEO argues:

> "You just never know. It's like a beauty contest! But does this city really need huge developments with billions or hundreds of millions of kroons invested? I think not. The whole city is already covered with a water and wastewater network."

The final draft of the current WDP for 2009–2025 was ready in May 2009; however, the approval process was postponed. In October 2009, local elections took place, and newly elected members of the city council started to discuss the WDP when it was presented to them by the mayor. The consultant who had put the development plan together was invited to explain the plan to the members of the city council. The CEO of company C did not participate in that city council meeting. The plan was finally approved in a city council meeting in February 2010.

Company C does not have a separate long-term strategic plan. In terms of planning, every autumn the CEO and an engineer working for the company prepares a list of renovation objects for the coming years. Priority is given to deteriorated assets of higher risk of damage or leakage in the water and wastewater network. Considering, the actual amount of funds available to company C, the CEO sets a renovation target for the coming year.

Services contract

There is no valid services contract between the city government and company C, since the previous agreement expired in 2008. In June 2009, a new version of the contract, the main part consisting of four pages for regulating the rights and obligations of the parties, was drafted and discussed between the mayor and the CEO. However, no agreement was reached between them.

The principal divergence between the parties stems from a proposal made by the mayor that the contract additionally stipulates a reaction time for the liquidation of water leakages and breakages by company C. The proposed three-hour limit in the case of accidents with significant influence and two working days in normal cases were unacceptable for the CEO of company C at the present level of water prices. The CEO claimed that ensuring a readiness to react and repair damage from accidents within the proposed three-hour limit would mean extra costs for company C that must be included in the water tariffs. This debated reaction time was one of the few specific quantitative

performance measures of service quality in the drafted services contract. The other was related to the maintenance of the pipe network, stipulating that 1/5 of the water pipes and 1/7 of the wastewater pipes must be washed through annually. In terms of water quality and wastewater treatment standards, the draft agreement referred to general requirements to be met as stated by laws or other state level legal acts. Therefore, there were no specific, measurable and time-bound customer service standards stipulated in this draft agreement.

However, there are other types of regulatory contracts (right of superficies, usufruct and rent) signed between the city government and company C, as discussed further on page 203, regulating the use of infrastructure assets, which belong to the local government, but are required for water services provision by the water company.

Determination of water price and compensation for investments

In June 2000, the city council had passed a regulation on the establishment of water and wastewater prices that, remaining unchanged for nine years, authorizing the city government to determine prices based on requests from the water company. The first requests for price changes from the present CEO after he had acquired company C were approved smoothly by the city government. So in July 2002, the city government agreed to introduce a fixed monthly charge for the residential (1.06 euro) and commercial customers (1.28 euro) of company C. The residential water users had previously only paid based on their actual consumption (at 1.05 euro/m3) for water services. The decision to establish a fixed element in the tariff structure was in reaction to a sharp 50% decrease in water consumption in 2002 compared to 2001 after consumption based volumetric water prices were introduced. Both the mayor, at that time working as consultant at the city government, and the CEO justified the new tariff structure in the media with the need to recover fixed costs in company C and maintain the network irrespective of actual consumption volumes.

However, in 2004, the city government refused for the first time to approve a water price increase requested by company C, reducing it to an amount that the CEO did not consider sufficient. Therefore, in light of the looming construction boom in Estonia, the CEO decided to obtain additional revenues for the water company from the construction sector. A separate construction department was established inside company C.

In October 2007, new water prices were approved (1.51 euro/m3 for residential and 2.29 euro/m3 for commercial consumers), which were again lower than those requested by the CEO of company C. Seven month later, in May 2008, company C approached the city government with another request for a price increase (to 4.26 euro/m3), which was refused and the water prices remained unchanged. The basis for commencing court proceedings was established. In July 2008, company C sued the city government asking the court

to void this decision and oblige the city government to establish water prices according to its request. The CEO claims:

> "There was no other way left for us anymore. We were over a barrel. We couldn't give up and had to go till the end. The city was like a wall in front of us."

The city council's price regulation from 2000 had stipulated that when applying for a price change, company C must present the city government with (1) a price calculation, (2) its actual production volumes for the last year and predicted volumes for the application period, and (3) an explanation regarding increased costs. The city government was entitled to ask for additional data on single cost items. The same regulation also included that the established water prices must allow company C to (1) recover production and operating costs, and (2) guarantee a justified profitability for company C making it possible to renew the infrastructure and recover loan payments and interest costs according to agreed plans. Such a wording in the established price regulation put in force by the city council had left room for divergent interpretations on the justified costs of company C to be included in water prices before and during the lawsuit.

In February 2008, after the expectations of the city government and company C on water prices had diverged again during the last price adjustment, the city government decided to hire an independent consultant to obtain an expert opinion on the real costs of water services provision and a justified water price for the city. A tripartite contract between the city government, company C and a leading consultancy firm in this field was signed to complete this task. To conduct the necessary analysis, the consultant gathered information from the city government and visited the CEO in order to collect data on the production costs of company C. The expert presented a version of his report to the mayor and the CEO in April 2008, also providing an indication of possible water prices. The mayor was not satisfied with the report, considering it half-ready, and asked the consultant to amend it. However, in May 2008, when the CEO applied for the next water price increase, he enclosed a copy of this report (not yet accepted by the mayor) with the application. The requested prices, 180% higher for residential and 85% higher for commercial consumers, were derived from the price calculations and cost estimates presented in the draft report. The city government refused the request for a water price increase as unwarranted in June 2008 – the mayor having been displeased that the report, which he considered half-ready, was attached to the request.

For the next one and a half years, from July 2008 to December 2009, the city government and company C became entangled in legal disputes – the major events from this are illustrated on a time line in Figure 25. Both parties involved external lawyers to support their representatives, the mayor and the CEO respectively, in court.

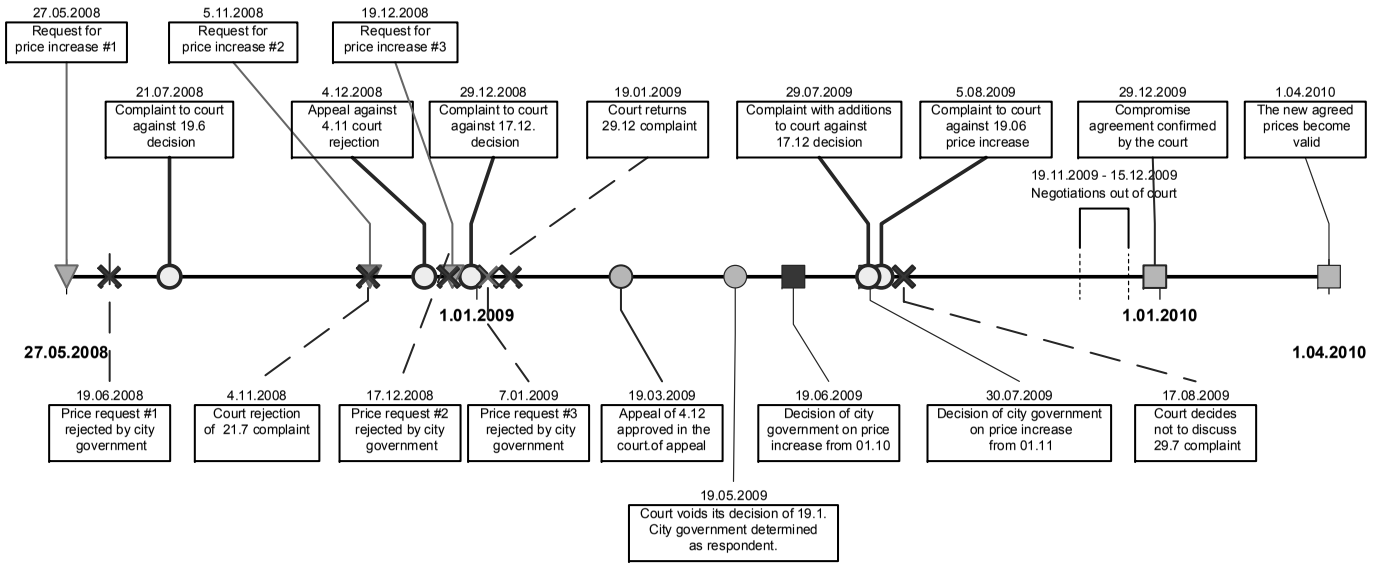


Figure 25. Time-line and major events of the court case between company C and the city government (source: compiled by the author based on court materials)

In November 2008, the court of first instance rejected the complaint by company C against the city government's decision not to approve their request for a price change. This court decision supporting the positions of the city government stated that the price request was not sufficiently warranted as required in the city council's 2000 regulation on establishing prices. Moreover, the attached expert report could not be considered a proper document, as it was not complete, and finally, since the 2003 services contract between company C and the city government had expired in January 2008, the water company was not entitled to apply for a price increase at all.

The next day, after the court had announced its decision, the CEO submitted a new request for a water price increase to the city government. Compared to the first application, the price in this request was lower (3.39 euro/m3 instead of 4.26 euro/m3). When this application was also rejected by the city government as not sufficiently warranted in December 2008, company C immediately responded with the third price request in seven months, also submitting a complaint to the court against this second negative decision from the city government. In January 2009, the city government refused the third request for a price increase with the same explanation. Meanwhile, the lawyer for company C had submitted an appeal to the court of second instance (court of appeal) against the judgement given in the court of first instance.

A positive court solution for company C appeared in March 2009, when the court of appeal decided to void the decision of the court of first instance from November 2008 as well as the decision of the city government from June 2008. The court of appeal justified its decision by pointing out the following key aspects: (1) company C was entitled to rely on the attached expert report when asking for a price increase because the 2000 regulation on establishing prices does not specify what evidence and in what format the evidence must be provided to justify a price request. The attached report was prepared based on data collected both from the city government and company C, and included a partial price calculation and justification for increasing prices; (2) company C must be considered, as the water company, entitled to apply for price adjustments, while in fact it was providing water services in the city irrespective of the expiry of the services contract between the parties; (3) the city government had not practically (economically) analyzed the price request, and rejected it only on formal grounds, without asking for additional information from the applicant or requesting shortcomings to be corrected in the price request. According to this resolution by the court of appeal, the city government had to review the price request from company C within a month. The mayor says:

> "More than a year had past since the last price review, and the costs had actually also increased by that time… It was necessary to make a decision regarding this."

The review process got started after the Supreme Court refused to discuss the appeal from the city government. Company C persisted in its requests and provided additional arguments to the city government that the increase in input prices (e.g. electricity tariffs, environmental fees, labour costs), the need to improve customer service, the need for reliability in water delivery and ensuring wastewater collection and treatment were all justification for the requested price increase. In June 2009, the city government decided to increase water prices from October of the same year, though not by as much as initially requested by company C. The water prices were increased by 24% for residential and 15% for commercial clients. One month later, in July, a new decision on price increases, 7% for residential and 5% for commercial consumers from November 2009, was passed by the city government. Company C reacted to these decisions with a complaint to the court this time also demanding compensation (approx. 110 thousand euros) for damages caused by the inactivity of the city government.

As opposed to June 2008, now a year later, the city government had carefully considered the economic arguments presented by company C in justification of its price increase and prepared an explanatory memorandum to its decision of June 2009. A revised report of the price analysis ordered from the consultant in February 2008 was finally accepted in March 2009, and now the city government used this to justify its decision on the price adjustment. Relying on a comparative cost analysis of selected water companies in the report, the city government claimed that the production and labour costs against sales are unreasonably high in company C, and that it should use its resources more efficiently when providing water services in the city. Presenting annual turnover, the amount of transactions with related parties, labour costs and the net profit of company C, the city government concluded that the company had been run at an unreasonably large loss (65 thousand euros) in 2007, while a related construction firm, owned by the same individuals, had earned a profit (66 thousand euros). In 2007, sales to this construction firm had resulted in approximately 67% of company C's annual turnover. The mayor claims:

> "It looked to us like the water company was trying to include costs others than those related to water and wastewater services in the tariffs. /…/ The decision we made on the price change in June 2009 was not so easy to void anymore."

Since the beginning of the legal proceedings, company C had submitted four complaints to the courts against the city government by September 2009, now one of them had been settled by the city government with its decisions from June and July 2009. Both the CEO and the mayor had realized that there was little benefit from the disputes in court, while the judgements given never stated anything on the justified price level in the city. The mayor concludes:

> "This situation was absurd!"

The CEO notes:

> "This would have been an endless process. /…/ The court just said that the prices have to be reviewed by the city government."

In November 2009, soon after the local elections, a commission consisting of members of the city government and the owners[55] of company C started negotiations out of court with the aim of agreeing on justified water prices and putting an end to the lawsuits. A trade-off was reached after hours of discussion over four meetings by the end of December 2009. The city government proposed a form of price request on an Excel sheet, comprising a list of price components (i.e. primarily eight groups of costs divided into 57 line-items) for products (water vs. wastewater) and consumer groups (residential vs. commercial) that was filled out during the negotiations. The request form also included a section on predicted production volumes (in cubic metres), where the data could be taken from for unit cost and price calculations. At the first meeting, the city government declared that a justified profitability[56] included in the water price could be 10%, which after several disputes became part of the final compromise. After the necessary approvals from the commissions of the city council, the city government established the newly agreed water prices – approximately 22% higher for private and over 15% higher for commercial consumers starting from April 2010. The sheet with price components agreed upon during the negotiations between the city government and company C was added to the city council resolution as an explanatory memorandum. The CEO comments on the agreement:

> "Thanks to the court case and solution agreed by the end, the whole atmosphere is much better for us now. We gave up quite a lot… however; at least we have got the price that satisfies us."

Nevertheless, this settlement on water prices ignored one comment by the consultant, pointed out in the report to the city government, that the value of the depreciation component should be calculated fully or in part, on the replacement value of infrastructure assets in order to ensure sustainable cost recovery through the prices. The consultant had given the expert opinion on the replacement value and the expected lifetime of the water and sewerage infrastructure assets in the city. Still, the table of agreed costs for water services provision in company C that served as the basis of the price compromise reveals

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[55] Company C was represented by the CEO, the chairman of the supervisory board and a lawyer. The city government was represented by the mayor, city secretary and three members of the city government.

[56] In fact the value of the 'profit component' in the water prices is calculated as percentage of the included costs, therefore representing 10% mark-up, not 10% net profit margin for company C.

that the value of the depreciation component is derived from the amount of annual depreciation recorded on the books of company C. In terms of infrastructure assets, there appears a significant gap between the annual depreciation figures calculated on replacement value and the depreciation costs actually included in the water prices (see Appendix 12). The water prices agreed after the court disputes and negotiations by the end of 2009 are expected to recover only a relatively small part (approx. 21%) of the capital costs needed for sustainable infrastructure management and water services production in the city.

Budgeting and financing

The CEO, supported by an engineer and an accountant, has been is in charge of preparing annual plans and the budget for company C. The budgeting process usually starts in September and ends in December. For an investment budget, a priority list of infrastructure objects to be repaired and reconstructed during the coming year is put together by the CEO and the engineer. With years of experience in renewing water and sewerage infrastructure in the city as well as in other municipalities, the CEO and the engineer are familiar with approximate construction prices, which they rely on when making an initial estimate of the repair works. Considering company C's ability to finance its operations at established water prices, the CEO confirms a final amount for the annual repairs, which determines the final choice of infrastructure objects included in the reconstruction plan for the next year. According to the articles of association, the shareholders assembly, not the supervisory board, approves the annual budgets of company C.

From 2008, company C has not used any long-term bank credits to finance the repair and renovation works. The CEO had avoided bank credits because commercial banks had hardened their loan conditions (e.g. asking additional guarantees) during the economic crisis for companies not earning a profit, like company C which had operated at a loss since 2007. The CEO comments:

> "It's cheaper to borrow from my own investment firm than from banks. We have survived hard times and we can also gather the amount needed annually without the help of banks."

There are two regular income flows between company C and the city government: rent paid by company C and compensation (96 000 euro in 2009) paid by the city government for canalizing rainwater from the streets into the wastewater network. The rent is one of the single largest cost items (23 008 euro) in the 2010 budget of company C. The rental payments proceed from the 2007 rental agreement concluded for 2008–2012, which was part of the arrangements settled to acquire external funds for the water and wastewater infrastructure renovation in the city. There have been two major investment projects executed in the city: the construction of a new water purification station (1999; total cost of 409 thousand euro) and the renovation of the wastewater treatment plant

(2009; total cost of 1.02 million euro). In both cases it was the city government that prepared all the required documents and applied for the support funds because according to the regulations of the time, only publicly owned water companies or local governments in Estonia qualified for grants covering up to 90% of the water infrastructure renovation costs. Also, the necessary 10% self-financing was partly borrowed by the city government from commercial banks. As required in the grant conditions, both renovated water infrastructure objects are owned by the city government. At the same time, the water purification station and water pumping stations, a relatively small proportion of the water (3890 meters) and wastewater (4252 meters) network and sewage pumping stations are all rented back to company C under a rental agreement valid until 2012. Through the rental payments from company C, the city government has recovered its 10% down-payment for constructing the water purification station as well as recovering the self-financing provided for the renovation of the wastewater treatment plant. Moreover, the wastewater treatment plant is located on a plot of land belonging to company C, which has established on it a right of superficies to the city government's benefit until 2020. In connection with the right of superficies, company C again holds a usufruct, which gives the water company the right to use the property (i.e. the wastewater treatment plant) for the same period. It has been agreed between the parties that the superficiary (city government) shall not make any payments for the right of superficies to the owner of the land (company C).

The amount of annual rental payments has been a negotiation issue between company C and the city government contingent on the size of the investments (self-financing) provided by the city government for water and sewerage infrastructure modernisation. Two years after the construction of the new water purification stations in 2001, when the CEO had acquired shares in company C, rental payments amounted to 32 thousand euros a year. In 2006, company C paid 6400 euros to the city government as rent; the amount increased to 23 thousand euros[57] from 2009 in connection with the renovation of the wastewater treatment plant. This last trade-off on the rent increase was not easy to reach and it revealed a serious conflict that ended up in the lawsuit over water prices between the parties less than a year later. In 2007, when the city government and the CEO started negotiations on how to gather and recover the 10% self-financing for the renovation of the wastewater treatment plant, the city government initially proposed that company C itself could provide the required 102 thousand euros[58]. The CEO of company C was to agree with the proposal, but only on condition that the city government would support his request for water price increases. The CEO explains:

[57] There is stipulated in the rent agreement the amount of annual rental payments is reviewed once a year and if changed, an appendix of the agreement on new payment conditions will be signed not later than a month before the beginning of next fiscal year.

[58] In 2008 city budget there was budgeted 76.7 thousand euro as rent from company C, however, the actually received amount remained less than 14% of that by end of the year.

> "This was a rather large amount for us. I said OK, we can go and take a loan, but let's also adjust the water price accordingly to cover the credit. Nothing came out of it."

The city government and several members of the city council during the negotiations objected to the CEO's proposal on the respective water price increase because they expected at first some investments to be made by company C. The mayor concludes:

> "It seemed to us that something had got out of hand, while the city government prepared projects, the company did nothing. The roots of the 2008–2009 lawsuits over water prices can be traced back to this moment."

However, from 1999 to 2009, a total of over 1.9 million euros has been invested in water and wastewater infrastructure in the city. The majority of the funds have been received as grants based on investment plans and applications prepared by the city government. Company C started to apply for support funds in 2008, after privately owned water companies became entitled to apply for grants with 10% self-financing, having succeeded with one application for a sewerage construction project worth 130 thousand euros.

Reporting and accountability

On a quarterly basis the CEO receives a financial report from the accountant of company C that provides him an overview of the corporate financial performance. This financial report includes a profit and loss statement, balance sheet and a review of costs for making a precise cost allocation. For the precise cost allocation, the CEO checks the use of materials by requesting explanations from the specialists responsible. After some manual adjustments, the report on actual costs allocated between the products (water or wastewater) and service areas allows the CEO to compare the costs with the amounts incorporated into the water prices according to the compromise with the city government in December 2009. The CEO claims:

> "I don't examine every single percentage of budget fulfilments. I look at the general picture. By the middle of the year, whether we have spent half or more of what we had planned for reconstruction and repair works."

After the end of each financial year, the annual accounts and management report are prepared by the CEO, which then together have been approved by the supervisory board and the AGM. The structure and the volume of the management (activity) reports have not changed much over the last decade. The management reports are one page at the beginning of the annual reports and reveal only some information on the financial performance of company C as summarized in Table 24.

Table 24. Performance indicators in the management reports 2006–2009

Type of information	Performance dimensions	Performance indicators	2006	2007	2008	2009
Non-financial performance	Water quality compliance	Compliance ratio, quality indicators	–	–	–	–
	Sewage treatment compliance	Compliance ratio, treatment levels	–	–	–	–
	Customers	Number of customers, end-users	–	–	–	–
		Customer satisfaction index	–	–	–	–
		Customers service indicators	–	–	–	–
	Price	Current water and sewage price (euro/m3)	–	–	–	–
		Typical residential bill; affordability index	–	–	–	–
	Production volume	Drinking water sold (m3)	–	–	–	–
		Sewage collected (m3)	–	–	–	–
		Sewage treated (m3)	–	–	–	–
		Produced sludge (tons)	–	–	–	–
	Internal processes	Number of water meters replaced	–	–	–	–
		Number of calls to customers re: accidents, interruptions	–	–	–	–
		Number of water meters controlled	–	–	–	–
	Assets	Number of water main breaks and sewer chokes	–	–	–	–
		Water loss (%)	–	–	–	–
		Sewerage and storm water pipes cleaned (km)	–	–	–	–
		Length of constructed and renovated water and sewerage pipes (km)	–	–	–	–
	Efficiency	Efficiency of the production technology (e.g. energy consumption to outputs)	–	–	–	–
Financial performance	Key financial performance indicators	Sales margins (%) – gross margin, operating margin, net margin	X	X	X	–
		ROA, ROE (%)	X	X	X	–
		Current ratio (%)	X	–	–	–

Source: compiled by the author based on data from annual reports

Table 24 shows that the management reports did not include any measurable data on the non-financial performance of company C and the provided performance information only related to some key financial performance indicators. Moreover, the 2009 annual report did not present financial performance indicators anymore either.

Company C has not submitted any reports to the city government on a regular basis either on its financial or non-financial performance. According to the draft version of the services contract offered by the city government, once a year company C is obligated to provide an overview of (1) its activities conducted during the current year, and (2) plans for the coming year. Based on the same draft contract, company C is also obliged to provide correct financial data and documents upon request to the city government and, ensure city officials have access to the company's infrastructure sites for supervisory purposes. However, the CEO has declared that he does not see any need for such a contract between the parties, while the water prices are regulated by the Estonian Competition Authority from November 2010.

The city government and company C publish information over their websites on the internet for the general public (i.e. consumers); which, however, does not comprise any data on the financial and non-financial performance of water services provision as shown in Table 25.

The only performance related information they provide to the general public over the internet is the current water prices in the city.

Table 25. Performance information published on the internet homepages

Type of information	Performance dimensions	Performance indicators	Company C website	City government website
Non-financial performance	Water quality compliance	Compliance ratio, quality indicators	–	–
	Sewage treatment compliance	Pollution load	–	–
	Customer	Number of customers, end-users	–	–
		Customer satisfaction index	–	–
		Customers service indicators	–	–
	Price	Current water and sewage price (euro/m3)	X	X
		Typical residential bill, affordability index	–	–
	Production volume	Water intake (m3/year)	–	–
		Water usage by purpose (m3/year)	–	–
		Drinking water sold (m3)	–	–
		Treated sewage output (m3)	–	–
		Produced sludge (tons)	–	–
	Internal processes	Number of water meters replaced	–	–
		Number of calls to customers regarding accidents	–	–
		Number of water meters controlled	–	–
	Assets	Number of water main breaks and sewer chokes	–	–
		Water loss (%)	–	–
		Sewerage and storm water pipes cleaned (km)	–	–
		Length of constructed/renovated water and sewerage pipes (km)	–	–
	Efficiency	Efficiency ratios of production	–	–
Financial performance	Key financial performance indicators of company B	Operating revenue and costs (euro)	–	–
		Financial income and costs (euro)	–	–
		Net profit (euro)	–	–
		Total assets, liabilities & equity capital (euro)	–	–
		Financial ratios (ROI, ROE, ROA, ROCE)	–	–

Source: compiled by the author based on data from the websites. Last accessed 3 April 2012

Financial performance

The financial results of company C have been relatively volatile over the decade between 2000 and 2009. As revealed in Table 26, under the present ownership structure three periods can be distinguished in the dynamics of company C's financial performance: 2001–2004, 2005–2007 and 2008–2009.

During the first period, company C made a profit from annual sales between 312 and 367 thousand euros in all years until 2004. In 2001, after the current shareholders had acquired the water company, the CEO decided to revalue tangible fixed assets upward by 229 thousand euros, which as extraordinary revenue caused a substantial one-off increase in the annual net profit. With this upward revalue, the book value of the infrastructure assets increased 20 times; this was in order to present their fair market value as stated by the auditor in the annual report. Consequently, the capital structure on the balance sheet also changed drastically by the end of 2001, when equity capital constituted approximately 72% of total capital (i.e. liabilities and equity combined) instead of only 9% a year earlier.

During his first years in company C, the CEO focused on taking opportunities to improve its efficiency and profitability that the previous shareholders had not fully realized: reparation of major water leakages, reduction in the number of employees, introduction of monthly fixed charges as a new component in the tariff structure and closing several public water extraction points that citizens were using free of charge. In one of the articles in the media from 2002, the CEO pointed out his position:

> "The goal of the water company as a private company is to earn a profit."

Despite efforts made by the CEO, the operating profit margin of company C constantly declined by two percentage points per year dropping from 11% in 2001 to 5% in 2004. The net profit margin, as revealed in Table 26, was 4% in 2004. Consequently, the CEO decided to look for extra income for company C from other fields of activity by entering into the construction industry, which had just begun to boom in Estonia. The CEO claims:

> "We had everything needed for construction and so we established a construction brigade in the company."

The second period from 2004 to 2007 was a period of economic boom in Estonia. On account of the construction activities, company C doubled its annual sales to 652 thousand euro in 2005, increasing it yet again in 2006. Income from the provision of water and wastewater services comprised 25–30% of the annual sales during this period. Company C ended its first full financial year in the construction business with a net profit of 101 thousand euros in 2005, which was a remarkable 8.2 times the net profit for the previous year. The net profit margin reached 15% in 2005. The CEO claims:

Table 26. Financial information in company C (thousand euros)

Year	Operating revenue	Operating profit	Net profit	Total costs	Capital investments	Total assets	Equity capital	Dividends	Net profit margin (ROS)
2000	331	9	9	322	1	95	8	0	3%
2001	312	35	264	277	78	379	273	0	85%
2002	287	27	27	260	5	537	452	10	9%
2003	367	27	22	345	16	531	464	10	6%
2004	324	17	12	312	62	549	466	6	4%
2005	652	110	101	551	20	688	561	48	15%
2006	725	63	45	680	9	640	558	13	6%
2007	716	–59	–65	781	0	532	480	0	–9%
2008	368	–35	–41	409	17	496	439	0	–11%
2009	329	–28	–30	359	181	629	409	0	–9%

Source: compiled by the author based on data from annual reports

> "All this profit came from the construction activities, and that let us subsidize water services. But in the city government they wondered why we wanted to increase water prices while the company is earning a profit. To make this clear, I established a separate company for the construction activities."

Consequently, after the establishment of the separate construction company, the profitability of company C decreased significantly in 2006 and 2007 as revealed in the final column of Table 26. Moreover, company C made a loss of 65 thousand euros in 2007, while the construction company earned 66 thousand euros in net profit in the same year. There was no drop in the annual sales of company C because now the water company had begun selling construction services (e.g. renting excavators with excavator operators) to the construction company. In 2006, sales to the construction company comprised approximately 37% of total annual sales for company C, and in 2007 this percentage was already as high as 67%. The CEO explains:

> "The construction company had one big project and we invoiced it through the water company leaving some 400 thousand kroons (approx. 25.6 thousand euros) there for nothing. Just, to support the provision of water services."

However, the city government wondered whether the management of company C was actually transferring profit from the water company to the construction company and running the former intentionally at a loss in order to justify the requests for an increase in water prices. By the beginning of the third period, 2008–2009, the economic boom was replaced by a deep economic recession in Estonia. Step-by-step company C withdrew from doing business with the construction company as its sales fell to 20% of the annual turnover in 2008 and to zero in 2009. As in 2007, company C was not able to recover its costs in 2008 or 2009 as the amount of total costs exceeded annual sales. As revealed in Table 26, the annual sales of company C had fallen back to 2003 and 2004 levels, but the company was now operating at a loss with a net profit margin of –11% in 2008 and –9% in 2009. Even though the CEO reduced operating costs in proportion with the drop in sales, respectively 48% in 2008 and 11% in 2009, the costs remained higher than in the pre-boom period of 2001–2004.

The present shareholders collected their first dividends from company C in 2002, when 10 thousand euros (i.e. 35% of annual net income) was paid out as dividends. The dividend payout ratio increased over the next two years up to 52% by 2004, while the profitability trend continued downwards. The shareholders distributed dividends on a yearly basis until 2006, which was the last profitable year for company C. As revealed in Table 26, the owners collected 86.3 thousand euros as dividends from company C, while making capital investments of 390 thousand euros in the company for 2001–2009. However, 134 thousand euros of that was provided to company C by the environmental investment centre as a grant in 2009.

Non-financial performance

During the decade under observation, the water prices had doubled for the residential customers of company C. Due to relatively sharp increases in the water prices in the last years (32% in 2009), the affordability of water services has worsened for households in the city. Instead of 1.6% in 2008, an average water bill comprised approximately 2.1% of the average household's disposable income in 2009 (and even 2.7% in 2010), which remains below the threshold of 3–5%. The value of the affordability indicator has been above the Estonian average for company C, the gap increasing in recent years (see Appendix 8). The water prices established for legal entities operating in the city have been 20–40% higher than those for residential water users. Moreover, by 2010, they paid approximately 30% above the Estonian average for a cubic metre of water and wastewater (see Appendix 9). The gap was a tiny 3% in 2007 and 2008, when the city government had refused to accept the price increases requested by company C.

In regard to access to water services, approximately 95% of the population is connected to the public water supply and sewerage system, the option of connecting has been made available for all households in the city. The access rate for the public water supply has not changed significantly during the last two decades because the majority of the housing-stock, multi-storey apartment houses built in the Soviet period, had always been connected to the public water supply. Somewhat less people, 89% had connection to the public sewerage network by 2009. Under conditions established by the city council for connecting to the public water supply and sewerage system, the connection fees are paid by those being connected to the public water supply and sewerage system.

The quality of the drinking water was the most crucial issue for water users 10 years ago, when tap water was rusty and notorious for containing a gas mixture of methane and radioactive radon. In addition, the concentration of barium, a heavy metal, exceeded established standards for drinking water at that time. These problems were solved step-by-step after the construction of the new water purification station in 1999, and all drinking water provided by company C was treated in the purification station by 2002. The water quality provided by company C meets the criteria in all quality categories, with one exception, which the company, similar to company A, has never been able to meet – the content of radionuclide (radium). The permissible concentration stated by the EU Drinking Water Directive is 0.1 mSv per year, but the water extracted by company C has had concentrations 4–10 times higher (0.44–0.95 mSv/year). Both the CEO and the city mayor recognise the possible health risks related to radioactive overdoses, but in the present case they consider it a pseudo-problem without a real solution.

Summary of the case study

In the present case, the CEO and the mayor as key actors form a tandem team that through interactions within the established regulatory frameworks direct the performance of company C. The CEO running this closely held owner-managed water company has both the power and incentive to make efficient decisions. The supervisory board of company C has a symbolic role in the power delegation, and is seen as a mandatory body to have without executing any real control (approval) rights over the CEO. It is the shareholders assembly level where the CEO and the chairman of the supervisory board as owners agree on strategic corporate objectives. Moreover, the formal corporate governance structures build a relatively narrow part of the general context in which the CEO and the chairman of the supervisory board as business partners communicate with each other.

The CEO entered company C with the aim of increasing its efficiency, making it profitable and earning dividends; however, without properly considering the peculiarities of water services production and the potential risks associated with water price establishment under lax regulations. The city mayor was primarily interested in improving the quality of drinking water and renovating the amortized wastewater treatment plant considering it important that possible increases in water prices depend on actual investments made by the water company in modernising the water supply and sewerage infrastructure. He was concerned that water prices would go up while company C operating at a relatively high profit with dividends paid to its shareholders out of the company.

Similarly, both parties looked on the process of long-term planning, when preparing the WDP, as a sort of bureaucratic requirement to be met in order to apply for grants in the future, not as a real option to discuss and mutually agree on key objectives involving coherent price determination for water services. The same issue, handling price apart from the expected services outcome, appeared in the context of defining service standards for water services provision in the services contract. First, there is no valid services contract between company C and the city government stipulating quality standards the water company must comply with when providing water services. Secondly, when drafting the unsigned new version of the contract, the mayor aimed to include a few standards (e.g. reaction time to accidents) similar to those in larger water companies, but without considering the extra water tariffs necessary as income to develop the required capabilities (constant readiness) in company C.

However, in the context of lax price regulations, without clear principles, formulae and instructions for how the water price requests must be presented and what price changes are contingent on, price development has remained unpredictable for the key actors. Consequently, financial performance (shareholder perspective) and related non-financial performance (stakeholder perspective) have suffered during the observed period. Among other possible

reasons, the provision of water services in company C has not turned out to be a financial success because:

- The revenues (water prices) have been dependent on the mayor's will and the CEO's negotiation skills rather than changes in actual production costs. No price mechanism was established that would consider the influence of inflation on costs during the economic boom in 2005–2007.
- For one and a half years the city government and company C argued over water prices in different courts without achieving the expected results. A compromise between the parties was reached during negotiations out of court, when they first decided to agree on a framework (form) for determining the costs and profitability of company C.
- There was a lack of accountability from company C to the city government, which resulted in a serious lack of trust between the partners hindering the necessary cooperation. All in all, there was weak control by the city government as regulator (contractor) over company C as service provider.

Consequently, in the context of a lack of trust and uncertainty over possible price adjustments to cover incurred expenses, the CEO took a conservative approach to making investments. In the last years, company C already faced problems when seeking to acquire capital from commercial banks, while the banks required additional guarantees, unacceptable for the CEO, before lending money.

Another consequence of the poor governance (mechanisms) and long-term planning is that the established water prices did not ensure the sustainability of the present infrastructure, while the depreciation costs included in the water tariffs recover only a relatively small part (21%) of the capital costs necessary to maintain the infrastructure for the years ahead.

Considering the capital constraints on company C, the city government took a leading role in organizing grants and credits to solve problems with water quality and wastewater treatment. After conducting two major renovation projects (water purification station and wastewater treatment plant), all citizens are now supplied with clean drinking water that meets all quality criteria, except the content of radionuclide, and wastewater is now treated according to the requirements of the EU directive. This can be considered the most significant achievement in water services provision in the city. However, the private ownership of company C did not facilitate this process by providing the necessary financing; on the contrary, the grants for infrastructure modernization, which required a relatively low level of self-financing (i.e. 10%) were provided only to publicly owned water companies or local governments. Therefore, the city government and company C signed a package of contracts that stipulate ownership, usage and financial rights and obligations related to operating these infrastructure facilities. The rental payments from company C to the city government were meant to recover the amount of self-financing provided by the city government when applying for the grants; however, the rent amounts varied significantly across the years and influenced the financial results of company C.

The size of the rental payments was another source of conflict between the mayor and the CEO that resulted in the court dispute over water prices.

A conceptual change from the citizens' viewpoint regarding water consumption occurred in 2001–2002, after the present shareholders acquired company C and drinking water became a commodity for water users. This was a result of actions (e.g. water metering, fixed charges, closing public water extraction points) taken jointly by the CEO and the mayor. The residential customers of company C pay relatively more for water services than households in many other municipalities in Estonia as a percentage of their disposable income, this affordability index having worsened sharply in recent years. However, the affordability index still remains below the suggested 3% threshold.

3.4. Discussion on the influence of governance on the performance of water services provision

3.4.1. Governance patterns and the performance of water companies

The aim of this research was to provide a more in-depth understanding of how the Estonian water companies under different ownership regimes are governed and how the different patterns of governance influence the financial and non-financial performance of water services provision in Estonian municipalities. In terms of water services governance, particular interest was given to interactions between water companies and local governments and how they proceed to achieve their divergent goals. The main findings of the multi-case study research are summarized in Table 27 (p. 210–214), which in light of the theoretical governance framework established in subsection 2.1 (Figure 18, p. 101) make it possible to draft notions about how the setup and use of governance mechanisms would shape performance in water services provision. The findings in Table 27 provide propositions formulated in subchapter 3.4.6.

The discussion in subchapter 3.2, based on the results of the quantitative analysis, indicated that privatisation of water companies should not be considered as guarantee to relatively more efficient provision of water services in Estonian municipalities. In the light of the results it could be argued that the local governments should rather consider the specifics of water monopoly (e.g. scale efficiency) and focus on designing proper governance mechanisms, if willing to improve the efficiency of water services provision. However, efficiency is relevant, but as argued in subchapter 1.3.1 (p. 79–82), it remains only a narrow indicator of performance in water services provision (Hukka and Katko 2003) and there are other performance targets (e.g. water quality and affordability) the local government as service guarantor (contractor) needs to focus on as well. Therefore, in the context where ownership *per se* is not expected to lead to better outcomes in water services provision, it becomes

relevant to understand which governance tool under particular ownership structures could be established, and how the design and implementation of them makes it possible to achieve various non-financial and financial performance targets.

Local governments can have two sets of governance mechanisms in use to direct the water services provision in water companies: corporate governance tools (e.g. boards) and regulatory governance tools (e.g. services contracts). In cases A and B, where local governments have retained (respectively minority and majority) ownership in the water companies, both types of governance tools are in use. In case C, where a privately owned company produces water services, the local government has only regulatory governance instruments available for influencing the performance of water services provision in the city. Thus, as a starting point for further discussion, it can be outlined that the selection of governance mechanisms available to local governments to intervene in water services production is determined by the ownership structure of the water companies (i.e. it can be viewed as endogenous).

However, before going on to discuss the setup and use of different governance mechanisms for influencing the performance in the three case companies, it must be pointed out that the different ownership structures embody distinct interests. Due the different ownership structures of company A, B and C (as depicted at the beginning of Table 27), their primary corporate objective is different. The private owners controlling companies A and C were first of all interested in financial profit and dividends, which they distributed every year the companies earned a profit. However, the sole public owner of company B has been primarily interested in the non-financial performance of the company (water quality and services affordability) and never withdrawn dividends from the company. Nevertheless, keeping company B profitable is also considered an important objective for the public owner (local government). In company A, the local government as a minority owner has voted for dividend payouts like the private owners in annual general meetings, while during the years as a service provider (regulator) it actively stood up for decreases in water prices (i.e. corporate revenues). Hence, to answer **research question 2** – what are the primary objectives of different types of owners – it can be stated that the private owners of the water companies tend to be primarily interested in financial performance, while the public owners rather in achieving non-financial objectives.

Table 27. A comparative overview of governance-performance patterns of water companies

Research domain		CASE A		CASE B		CASE C	
		Feature	**Consequence**	**Feature**	**Consequence**	**Feature**	**Consequence**
Corporate governance	Ownership structure (RQ2)	65.3% privately and 34.7% publicly owned	Primary corporate objective: profits and dividends by the dominant private owners	100% publicly owned	Primary corporate objective: quality and affordability of water services	100% privately owned	Primary corporate objective: profit and dividends
	Supervisory board composition (RQ3)	3 of 9 from the ruling political party in the city council incl. a deputy mayor (regulator)	Focus on advising about political risks; water price negotiations held outside the boardroom	7 of 7 members from the ruling political coalition parties in the city council	Focus on ensuring reasonable water prices and high quality of water services	3 of 3 members not politically active individuals all appointed by the CEO as a shareholder	Focus on authorizing the CEO's instructions, if necessary. The CEO and the chairman of the board as shareholders oriented on financial results
		6 of 9 members are business managers with international experience	Focus on business growth and improvement in financial results	6 of 7 members entrepreneurs, managers or economists	Focus on ensuring efficiency and profit; business-like management in practice		
	Supervisory board functions (RQ4)	Control role (over management), service role (co-opting), strategic role (challenging targets)	Goals of management board aligned; diffused threat to financial results through co-opting of politicians	Control role (over management), service role (co-opting), strategic role (price pre-determination)	CEO's goals aligned; diffused political pressures from party offices; all water price requests been smoothly approved by the LG	No control, no service or strategic roles	Symbolic role. The roles of board delegated directly to the CEO or shareholders

Table 27. Continuation

Corporate governance	CEO (RQ3, RQ4)	Seconded by the dominant private owner alone, expatriated from the parent company	CEO able to carry the dominant owner's business approach and represent its interests	Appointment by the board, member of the city council	CEO being able to tackle political issues regarding water services in the city council	Appointed by the board – CEO's own decision as a shareholder	CEO in pursuit of its own shareholder business (profit) interests
		Common work history with the chairman of the board in the company	Trust and partnership (stewardship)	Common party membership with the chairman and mayors	Trust and partnership (stewardship). Political support from LG	Joint business interests and shareholdings with the chairman in other firms	Trust and partnership (stewardship)
		Long-term international work experience in water companies	Strong competence water services governance and management; specific know-how in finances	Long work-history in the water company on different positions	Competence and know-how how to run the company in the given environment	No experience in the water sector before the company acquisition	Relatively limited know-how on water sector peculiarities and business risks
		Performance-related pay from the dominant owner – profit rights	Incentives to meet the dominant shareholder's financial targets	Performance-related pay by the board – profit rights	Incentive to meet the financial targets and increase efficiency	Performance-related pay: dividends in case of profit	Incentive to maximize profits for dividend payments. Dividends paid when years ended in profit

Table 27. Continuation

Regulatory governance	Services contract (RQ5)	Strict: includes water price and quality-of-service regulations	Clarity of roles; no obvious agency conflicts between the counterparties	Declarative: no specific water price and quality-of-service regulations	Large autonomy of the board on water price and service regulations. No obvious agency conflicts	Declarative (expired): no specific water price and quality- of-service regulations	Information asymmetry. Serious conflicts on the levels of service against water prices
	Price regulation (RQ5)	Method: annual adjustments based on a formula: K coefficient + CPI. No limits set on the allowed rate of return	Strong and secure revenue stream for the company; incentives to reach the required levels of service at minimum costs	Methods: general and declarative 'cost-plus' regulation without specific formula. CPI not considered automatically	Revenue increases not ensured in line with changes in CPI. Company in moderate profit	Method: general and declarative 'cost-plus' regulation without specific formula. CPI not considered automatically	Revenue increases not ensured in line with changes in CPI. Company unable to recover its costs to operate – financial loss
		Price establishment by LG under the price formula from the regulatory contract	Formal approval or proposal on price negotiations from LG. Company has the final say in price review	Price establishment by LG based on proposals from the CEO	Formal approvals by LG. All request for price increase approved smoothly after pre-approval of the board	Price establishment by LG based on proposals from the CEO	Selective approvals by LG. Regulatory (political) discretion. LG has the final say in price review
	EU regulations (RQ5)	Necessary infrastructure renewal without access to the EU support funds	Extra cost for taxpayers: network extension funded fully from LG budget. Compliance with the EU quality norms	Necessary infrastructure renewal largely with help of the EU support funds	Little costs for taxpayers, small debt burden of the water company. Compliance with the EU quality norms	Necessary infrastructure renewal largely with help of the EU support funds	No cost for tax-payers, bundle of asset contracts signed with LG. Compliance with the EU quality norms

Table 27. Continuation

Accountability for performance	Managerial (RQ6)	From CEO to board: interim financial results	Control and trust verification. Bonuses	From CEO to board: interim financial results	Control and trust verification. Bonuses	From CEO to chairman: interim financial results	Control and trust verification. No bonuses
		From CEO to shareholders: interim financial results through stock exchange	Relatively greater transparency in pursuit of share value and trust	From CEO to shareholders: no interim financial reporting	LG as shareholder not evaluating interim results. Limited transparency	*See right above*	*See right above*
		From CEO/board to AGM: comprehensive yearbook on financial and non-financial performance	Relatively greater transparency. The yearbook as marketing tool. Approval to annual financial results	From CEO/board to AGM: annual report with minimum information required for LG meeting	Direct communication and discussions. Trust verification. Approval to annual financial results	From CEO/board to AGM: annual report approved with minimum required information	Direct communication and discussion between two business partners. Approval to financial results
	Political (RQ6)	From CEO to FND: annual report on compliance with the service standards from the regulatory contract	Monitoring. Penalties in case of non-compliance. Publicity and possibility to justify its strong profitability	From CEO to city council: annual progress against WDP goals + *see right above*	Rather formality, inclusion of the city council into water services governance + *see right above*	From CEO to LG or city council: no reporting on financial or non-financial results	Information asymmetry, weak control by LG, distrust between the CEO and the mayor (regulator)

Table 27. Continuation

Accountability for performance	Social (RQ6)	Corporate website: comparable financial and non-financial data and corporate governance information	Good transparency. Quality of services stressed to justify the profitability. Relatively higher public interest on the company	Corporate website: no financial data, some production, water quality and price information	Relatively limited transparency for general public via the Internet website. Relatively less public interest on the company	Corporate website: without any performance data and corporate governance information	Hidden, not a transparent service producer for general public via the Internet website
Performance	Non-financial and financial (RQ7)	EU quality and environmental norms met at good service affordability (cross-subsidising by commercial water users) and high profitability of the water company	Biased trade-off between the financial and non-financial performance. High profitability and dividends gives rise to legitimacy issues (dissatisfaction among politicians and citizens)	EU quality and environmental norms met at good service affordability (no cross-subsidising by commercial water users) and moderate profitability of the water company	Balanced trade-off between the financial and non-financial results. Moderate profitability and reinvested profits does not give rise to legitimacy issues (public dissatisfaction)	EU quality and environmental norms met at relatively lower affordability (cross-subsidising by commercial water users) and loss of the water company	Biased trade-off between the financial and non-financial results. The company not able to cover its cost. Postponed investments. This gives rise to sustainability and legitimacy issues

Note: abbreviations AGM – annual general meeting, CPI – consumer price index, FND – foundation for the supervision over water companies, LG – local government, WDP – public water supply and sewerage system development plan, board – supervisory board.
Source: compiled by the author based on the case study results

3.4.2. Corporate governance features and their consequences on the performance

Board composition

Boards are central to the corporate governance discussion (Clarke 2007, Thomsen 2008), and the presumption that boards matter in decision-making can be approached from multiple theoretical perspectives (Maassen 2002). Nevertheless, in many cases, board structure and board behaviour are determined by other corporate governance mechanisms in combination with firm-specific variables (Thomsen 2008). The case studies reveal that corporate boards can have lots of formal authority, but in fact their real authority can be limited, as stressed by Aghion and Tirole (1997) and Tirole (2001). In the cases explored here, the real authority of the supervisory board is often determined by board contingencies, such as a services contract, local government regulations or shareholder activism. Of importance to this discussion is the recognition that there is an interrelation between different corporate governance mechanisms, and the board contingencies influence the board's contribution to company performance (Jensen 1993, Shleifer and Vishny 1997).

As shown in subchapter 1.1.3, recommendations in various corporate governance codes (Combined Code 2003; OECD 2004, 2005) are to a great extent concerned with board structures and board functions. In corporate governance literature publicly owned monopolies are often associated with inefficiencies and the inability to meet growing demands (Shirley and Nellis 1991, Araral 2008) because of political pressures to keep prices below costs (Harris 2003) or other undue hands-on politically motivated ownership interference (Boycko et al. 1996, OECD 2005). The three case companies have different ownership structures and respectively a different proportion of local government representatives among the supervisory board members – 3 of 9 seats in company A (34.7% public ownership), 7 of 7 in company B (100% publicly owned), 0 of 3 in the supervisory board of the fully privately owned company C. Accordingly, company B would be expected to provide the greatest opportunities for local politicians to interfere in pursuit of party political interests; however, in reality this risk is filtered (a) through professional requirements (business/economist background) set for the supervisory board members, and (b) due to the fact that members of the city government do not belong to the supervisory board. Moreover, the stability of the political coalition in case B has made it possible for the supervisory board members that also belong to the city council to continue their work on the board over a longer period of time and to acquire knowledge of the peculiarities of the water sector.

If in case B the city government has delegated its representation in the supervisory board only to members of the city council, then in case A a deputy mayor responsible for the governance of municipal engineering services is actively involved in the work of the supervisory board. In the public governance literature such situations where the owner of the company is the same as the

regulator are often associated with conflicts of interest (Shirley and Nellis 1991, Argento et al. 2010). This can lead to a confusion of roles and incentives if stakeholders are required to be both actors within a purchaser-provider contract and strategic partners (McQuaid 2010). However, in case A the city government is only a minority shareholder in the water company and possibilities for any intervention or political interference in day-to-day management are limited due to (services and shareholder) contracts signed during the privatisation. The deputy mayor in case A seems to reflect the dual role (Grossi and Reichard 2008) of local government as owner and regulator at the same time; however, in fact the abovementioned board contingencies leave him primarily in the role of owner (investor) representative in the company (e.g. advising the board on political risks related to the central government).[59] In order to act as regulator, the city government can propose re-negotiations of the (services) contract to representatives of the dominant private shareholder outside supervisory board meetings, who would agree to the new conditions if those are expected to add extra (firm) value in the long run.

In case company C, where the ownership is equally shared between two private persons, the city government has no representatives on the supervisory board. Moreover, the supervisory board has only a symbolic role in power delegation (e.g. budget approved directly by shareholders) without any real contribution options or control rights over the CEO, who owns half the company. Notwithstanding, the city government without any ownership and profit rights in company C, has only been interested in its social objectives (e.g. service quality and affordability to citizens), which often conflict sharply with the economic objectives of the company shareholders.

In a comparison of board characteristics (Maassen 2002), there appear some rough similarities between case A and case B in terms of the supervisory board members' educational background or work experience. More specifically, in both cases the majority of supervisory board members, including the chairmen, are active business managers, prominent entrepreneurs or economists. For them the efficiency and profitability of the companies they are concerned with are elementary conditions for defining performance. Service quality is not seen as exclusionary term to corporate profitability, rather than complementary, which in case A is used by the management to justify or legitimate the corporate profits. In case B, where all the supervisory board members belong to the city council, they are clearly interested in efficiency improvements (cost control) in order to postpone price increases for users and keep the water price relatively low, which could be recognised as a sign of good governance for different constituencies. Publicly owned company B, as opposed to companies A and C, has never distributed dividends to shareholders and has reinvested all profits back into the company.

[59] The deputy mayor comes from a political party in opposition to the political coalition of the central government.

In the context of company C, the background of the CEO and the chairman as key actors (the two shareholders) is relevant for comparison. At the moment they acquired ownership of the water company, they both had miscellaneous expertise in reorganizing, merging and selling companies in different industries, but not a deep knowledge of water sector specifics and the risks related to governance arrangements. This contrasts sharply with case A, where the private shareholders and expatriated managers, when joining the water company, possessed extensive international industry expertise on how to manage a water business effectively and establish relationships with regulators. As opposed to all his Estonian colleagues, the CEO of company A, expatriated from the UK, is completely familiar with international governance practices and the possible effects of economic regulations applied to (private) water monopolies elsewhere. The CEO of publicly owned company B is a strongly business-oriented manager, a member of the city council, who has a long working experience in different positions in the water company. To sum up, the cases indicate that through their corporate governance bodies, companies A and B have a relatively wider (economic, industry and political) knowledge base for this context than that of company C.

Interestingly, in light of the German two-tier corporate governance model applied in Estonian water companies, all three CEOs have a distinct direct relationship with the (dominant) shareholder that facilitates cooperation between them. The expatriated CEO of company A is seconded by the dominant shareholder (UK water multinational); consequently, he obviously carries and represents the business interests of that shareholder. The CEO of company B is a member of the city council, the superior authority in the city government, and leads the faction of his party in the council. Membership in the city council provides the CEO with another floor for communication with other political parties, making it possible to tackle political issues related to water services provision and to protect the company's interests on the political battle field. In case C, as noted earlier, the CEO himself owns half the company and the chairman holds the other half, making them close business partners in pursuit of financial goals. As opposed to case B, the CEO is not a member of the city council or any political parties, which could help interweave the financial goals with political considerations.

In conclusion, and answering to **research question 3 (RQ3**) – what characteristics do the members of supervisory and management board embody – it can be stated that the boards of water companies A and B include members that have relatively wide private sector management experience, good knowledge of water industry specifics and/or an influence in local politics. Moreover, company A with a mixed public-private ownership and through the representatives of its dominant shareholder embodies unique international experience in water company management and governance. Company C, as opposed to companies A and B, does not have local government representatives among its shareholders, and the supervisory board does not include individuals

actively involved in local politics. The members of supervisory and management board of company C, as opposed to companies A and B, have relatively narrower management experience and knowledge of water services peculiarities from relatively smaller local utility companies.

The roles of the boards

The corporate governance literature distinguishes different roles for boards, which from different theoretical perspectives can be divided into three main categories (Zahra and Pearce 1989, Gopinath et al. 1994, Jonnergård et al. 1997, Hung 1998): control, service and strategic roles. As noted in section 1.1.3, the roles of the board can be analyzed from a conflict perspective (e.g. agency theory) as well as a consensus perspective of board involvement (e.g. stewardship theory) in decision-making (Maassen 2002). In cases A and B, relationships between the supervisory board and the management (CEO) embody elements of both perspectives. Obviously, a core function of these supervisory boards is to exercise control over the management – they develop and implement internal control mechanisms (e.g. financial reports, internal audits, and authority rights) to avoid any misuse of company property and make sure that the managers use their powers to pursue the targets set for them. But in both cases the supervisory boards also have an important service role to fulfil – co-opting relevant influencers from their business environment (Mintzberg 1983). In case A, the representatives of the city government, including the deputy mayor responsible for the provision of communal services, have been involved in unanimous decision-making (e.g. approving profit plans and dividend payouts), which from the management's perspective diffuses the risk that they might use their political or (limited) regulatory powers against the company. The same holds for case B, where the supervisory board, co-opting rather influential business-minded representatives of the ruling parties in the city council, diffuses the risk of political populist interference in decision-making (e.g. in water pricing). Consequently, party political interests do not dominate over the economic and managerial decision-making rationale in company B. In terms of the strategic roles of the boards (Zahra and Pearce 1989), in case A and B, the supervisory board members contribute to corporate planning, conducted by the management, by probing managerial assumptions about the company and its environment, and by ensuring that agreement exists among executives on the strategic direction of the company (Zahra 1990). A principal difference in the roles of the supervisory boards lies in the extent to which they have a say in adjustments to water prices. In case A, the tariff formula and tariff levels are determined in a written services agreement and regulatory issues are discussed outside board meetings, while in case B it is the supervisory board where preliminary decisions on water price adjustments are made. Since all the supervisory board members and the CEO are members of the city council belonging to the political parties in power, the mutual

agreements on price changes achieved in supervisory board meetings have always been smoothly approved by the city government afterwards. Thus, the supervisory board decision is a crucial step in the whole price establishment process. As opposed to cases A and B, in case C the supervisory board only plays a symbolic role and does not fulfil control, service and strategic roles.

CEO alignment

Relationship between the CEO and the chairman is considered pivotal for effective boardroom performance in a number of theoretical and practical studies (Westphal 1999, Ng and De Cock 2002, Kakabadse et al. 2006). As noted by Kakabadse et al. (2006) 'effective governance application is dependent on the chairman and CEO nurturing a supportive and transparent relationship and manner of interaction'. It is inherent in all three case studies that interaction between the CEO and the chairman is not limited only to formal supervisory board meetings and official reporting duties. In all the cases there is "something else" beyond the CEO-chairman relationship, which is common to these governance actors: expatriates with experience in the same UK water company in case A, membership of the same political party faction in the city council in case B or shared business interests in some other jointly owned firms in case C. These links have facilitated partnerships, which according Coupar and Stevens (1998), is a question of building mutual trust, of recognising differences and finding common ground. The importance of trust is often emphasized in the context of effective delivery relationships between organizations and individuals (Gambetta 1998, McQuaid 2010). With regard to trust, the case studies provide support for the idea that trust between key actors (e.g. between CEO and chairman in case B) is a vital component in public governance, and the absence of trust can be deeply corrosive (e.g. between CEO and mayor in case C), as also pointed out by Clarke (2007). As expressively indicated by case B, trust can promote decision-making (e.g. smooth approval of price request in city government) and cohesiveness. Lack of trust can lead to adverse results, as shown in case C, if either or both parties do not trust the other.

Westphal (1999) suggests that 'in fact board effectiveness and ultimately, firm performance may be enhanced by close, trusting CEO–board relationships combined with moderate to high levels of CEO incentive alignment.' In the context of agency theory, as discussed in subchapter 1.1.2, the alignment of the agent's (CEO) interests with the principal's (board) interests is necessary to alleviate agency problems (e.g. moral hazard or adverse selection) related to the self-seeking nature of the agents (Alchian and Demsetz 1972, Jensen and Meckling 1976). Agency problems could be alleviated by the board by making the CEO's pay contingent on corporate outcomes because then the rewards for both depend on the same actions, and therefore, the conflicts of self-interest between principal and agent are reduced (Eisenhardt 1989a). Both in case A and case B, those who employed the CEO (i.e. the dominant shareholder directly

and the supervisory board respectively) had established incentive mechanisms and made the compensation for the CEO dependent upon corporate financial performance. Thus, despite differences in ownership structures, all three CEOs have profit rights in the water companies they manage motivating them to be efficient and to achieve the financial targets set by their superiors.

In conclusion, and answering to **research question 4 (RQ4) –** what are the roles of the boards in influencing performance – it can be stated that in companies A and B with supervisory board members embodying relatively comprehensive knowledge and experience, the supervisory board executes control over the CEO (management board), approves (financial) performance targets (under proposals by the CEO) and co-opts influential stakeholders (e.g. politicians) from the surrounding business environment to influence corporate performance. Moreover, in fully publicly owned company B, the functional emphasis of the supervisory board is wider and its role even more significant in influencing corporate performance than in company A with its mixed public-private ownership. More specifically, in case B it is the supervisory board that appoints the CEO and sets up an incentive scheme for the alignment of their goals. Furthermore, in company B as opposed to company A, the supervisory board is actively involved in discussing and reviewing water prices, and their decisions and proposals considered by the city government when officially establishing the water prices. In company C, as noted before, the supervisory board is not a *de facto* employed corporate governance mechanism by the shareholders, and is simply used to authorize the CEO's or the shareholders instructions, if necessary.

However, a distinct feature that influences the use of the supervisory board as a formal control mechanism is the presence of strong trust between the key corporate governance actors – chairman of the supervisory board and the CEO – in all the three water companies. Relying on trust as an informal control mechanism, they rather act as stewards (a lot) outside the official supervisory board meetings than as principal and agent (narrowly) within the official corporate governance structures for influencing the performance of the water companies. Therefore, the contribution of the supervisory board meetings remains respectively smaller in controlling and directing the managers in pursuit of the corporate performance targets.

3.4.3. Regulatory governance features and their consequences on the performance

Regulatory mechanisms

It was discussed in subchapter 1.2.2 that the aim of a local government as contractor (service purchaser) is to ensure the supply of high quality public services at reasonable prices (Reichard 2007, Grossi and Reichard 2008). Furthermore, in the contractor-provider relationship weak institutional environ-

ments might make it possible for both counterparties to behave opportunistically resulting in conflicts between them (Casarin et al. 2007, Grossi and Reichard 2008). In the same vein, Shirley and Menard (2002) argued that many of the agency problems inherent in water supply can be alleviated through the design of regulatory contracts, which can reduce information asymmetry, align incentives and signal credible commitment from both parties.

In the case studies explored here, the local governments in each situation, where there was neither strict centrally applied economic regulation nor a regulatory agency for the water companies in Estonia (Peda et al. 2011), fulfilled the role of economic regulator through variously designed regulatory instruments compiled themselves or in cooperation with the water companies (e.g. services contracts, board resolutions, local government decrees). As the case studies consequently show, the local governments as regulators have different degrees of real control over the water tariffs and service quality in Estonian municipalities.

Agency theory is useful for explaining the governance relationships between the water companies and the city governments. As described in subsection 1.1.2, the agent is considered to have information that is not in the possession of the principal, and that the agent's behaviour is usually not completely observable, which generates problems with measuring performance (Hughes 1994, Walsh 1995, Doherty and Horne 2002). To mitigate opportunistic behaviour by water companies, it is suggested that clear performance measures complemented with incentives and sanctions are stipulated in the regulatory contracts (Shirley and Menard 2002, Brown et al. 2006). If in case A the contractor-provider relationship is regulated by a detailed services contract that stipulates both a simple water price mechanism for the years ahead and a number of services standards (i.e. 97 levels of service) the water company has to comply with, then in the other two cases the analogical regulatory contracts are only declarative by nature without specified service requirements or water price formulae. The quality-of-service regulation is seen to complement the price regulation (Ehrhardt et al. 2007), especially in cases where private sector participation takes place, in order to avoid the water companies having an incentive to compromise the quality of services as a cost-cutting measure (Foster 2005). In case A, the output oriented services contract (a) prescribes the obligation of the water company to supply information on its compliance with the service standards on a regular basis, and (b) has relatively good clarity in terms of the responsibilities of the parties, which ultimately has avoided obvious agency conflicts between the water company and the city government.

A bundle of potential problems related to poorly designed services contracts (or lack of them) become apparent in case C, where the contract (until it was valid) included neither specified quality-of-service stipulations, price formulae nor reporting obligations for the water company. First of all, the contract remained only declarative in terms of the service quality and water prices under the divergent (economic and social) interests of the counterparties, the regu-

latory discretion fostered conflicting interpretations the parties placed on the rules. Secondly, without any obligation of the water company to report periodically on financial and non-financial (including technical) information, the company had a strong incentive to abuse the advantage by undersupplying or distorting the information when requesting approval for price increases from the local government (Foster 2005). Thus, the local government faced a fundamental regulatory problem, and information asymmetry about the true costs of providing the water services to a particular service level. Due to the private ownership of the water company, the city government did not have the option of gathering the necessary information using shareholder rights that would have been possible in the case of public ownership as shown in case B.

In case B, the services contract between the city government and the (publicly owned) water company is not a thoroughgoing regulation either; however, there were not any serious regulatory disagreements between the counterparties because the role of economic regulator was actually allocated to the supervisory board representing primarily the interests of the water company. The supervisory board (resolutions), instead of the services contract, arranged the alignment of divergent social and economic objectives related to water services provision in the city. Moreover, as case B reveals, the outcome has been good water quality at high affordability rates while the water company is earning a moderate profit. Thus, contrary to recommendations from the public governance literature (Reichard 2007, Grossi and Reichard 2008) to make a clear distinction between the two different roles of local governments (i.e. guarantor and owner), incorporation of these roles in the (supervisory) board can also mitigate rather than create potential tensions and conflicts.

Price regulation method

As noted in subchapter 3.1.2, the main regulatory instrument of water services provision in Estonia – The Public Water Supply and Sewerage Act – is only a framework legislation, and does not provide any guidelines or give reference to any methodological approach to water costing or 'justified' profitability calculations to follow when establishing prices. The case studies explored here show that the price mechanisms and procedures used for determining water prices have provided the shareholders of the water companies with different levels of certainty and rates of return on their capital invested.

In case A, the local government, by signing the services contract during the privatisation of the water company, adopted a form of price regulation described by the formula CPI+K, where the water and sewerage price is allowed to rise by the retail price index plus a K coefficient. This price formula is similar to the one introduced by OFWAT during the privatisation of water and sewage utilities in England and Wales (Cowan 1998). It is noteworthy, that the K coefficient in case A has never been negative to reflect productivity improvements, as would be the idea of a price-cap regulation (Renzetti and Dupont

2004), but was set between 0% and 15% during the privatisation, later negotiated lower between 0% and 10% for the years of this study. Considering that during the privatisation, the counterparties (i.e. the city government and the dominant shareholder) also agreed on the investments that the water company would undertake, then in light of the fixed price increases, this type of price regulation is actually not much different from the rate-of-return regulation. Still, as opposed to the rate of return regulations historically popular in the US (Renzentti and Dupont 2004), the Estonian regulations did not prescribe what the 'justified' rate of return should be and so did not determine any fixed ceiling.

At the same time, the services contract in case A is not prescriptive about the amounts which the water company must invest to comply with the levels of service, which certainly motivates the company to meet the standards at given water tariffs as (cost) efficiently as possible. Or, as the CEO of company A said during an interview that "all the risk and reward lies in the company." Consequently, this rather simple price formula agreed during the privatisation of company A, which includes a positive K coefficient and allows the company to include changes to CPI automatically in water prices, has provided the water company with a secure revenue stream and significantly higher profitability than in cases B and C.

In cases B and C, as opposed to case A, there is no clear price formula stipulated either in the services contracts or in any other local government regulations (e.g. decrees). The water price regulations established by these local governments mostly repeat the lax national framework regulation, without specifying the costs to be covered and giving indications on justified profitability to be included in the water prices. It was noted in subchapter 1.3.2 that if a 'cost-plus' contract is agreed upon, in which the water company is compensated for costs above those that could be predicted in the contract, then the local government bears all of the risk and must find some way to make the company accountable for reporting costs honestly (Kinnunen 2004, Renzetti and Dupont 2004, Foster 2005). As described in subchapter 3.3.3, there has been no regular reporting established between the city government as regulator (principal) and the water company (agent) in case C, which caused information asymmetry between the parties and resulted in serious disagreements about the true costs related to water services provision in the city. Consequently, in case C, the city government began to regulate the prices by only selectively approving the price proposals of the water company, so that without clear rules of the game between the counterparties this impaired the predictability of price development for the water company. Under relatively high inflation, company C was not able to increase its revenues in line with changes in the CPI, unlike company A, and operated at a loss. As discussed above, such information asymmetry was not present in case B, where the supervisory board members as acting regulators had a thorough overview of the real costs of the water company on a regular

basis and adjusted the water prices as necessary to ensure a moderate profit for the water company.

Price review

Estonian local governments establish water prices based on a proposal received from the water company. Approving the proposal can be a pure formality (e.g. case A), when the water prices are determined previously with stipulations of written regulatory contracts between the parties. Or, alternatively, it could also be the only real option for the local government to intervene in price adjustments (e.g. case C), when such previously signed contracts are missing. Either way, the determination of water prices, can indeed be viewed as a game played out over time between the regulator and regulated company, as characterized by Parker (2003). In case A, the city government has initiated a number of re-negotiations of services contract with the water company and its dominant shareholder in order to intervene in price determination and to present itself as the regulator. Changes in the contract signed during the privatisation become possible only if the private owner agrees to them or the parties find a mutually beneficial compromise. To do that, changes in water prices have become something to trade against changes in other clauses of the services contract (e.g. exclusive prolongation of the contract term) that would strengthen the company's position in the market. So, in case A, where the price negotiations have been initiated by the city government with the aim to talk them down, it is the water company together with its dominant owner, relying on a thorough services contract that has the final say on water price adjustments.

The situation is different in case C, where the services contract does not determine the water price for the years ahead and the price increases proposed by the water company become the object of negotiations – they are open to regulatory discretion. It is the water company that has to justify and convince the city government, which has the final say in price determinations, in urgency of the asked water price increases. The decisions of the city government to reject the requests for price increases from the water company as unjustified, and the inability of the counterparts to come to a mutual agreement have primarily harmed the financial performance of the water company. From the perspective of water users, in case C, the inevitable increase in water prices was postponed only for a while, in order to occur more steeply later on.

In case B, which is different again, there are no real price negotiations held between the city government and the water company, and as previously noted, the CEO has to primarily convince the supervisory board members that price increases are necessary to maintain stable financial results. Later, the price requests have always received approval by the city government.

In summary, and answering to **research question 5 (RQ5)** – how does the set up and use of regulatory contracts and institutions influence performance – the case study provides support for the opinions expressed by a number of authors (Parker 1999, Hukka and Katko 2003, Foster 2005, Shirley 2006) in

subchapter 1.3, that the private provision of water services under weak regulatory conditions can be risky and result in failures. Divergent interpretations of unclear rules in regulatory contracts and the lack of control options left to the regulator can damage relations with the water company to the point where dialogue completely breaks down and discussions can only continue in court, as occurred in case C. In the same vein, case A provides support for the idea that under private management of water services provision, the presence of strict contracts, which clearly stipulate the rights (benefit) and obligations (deliver) of the water companies, can mitigate performance eroding regulatory conflicts. However, lax regulatory contracts would not necessarily cause agency conflicts in the case of public ownership as in case B. The aim of using tight regulatory contracts – clear rules for achieving the desired performance objectives – can be achieved by the local government as regulator through the (supervisory) board.

The financial performance of the water companies is largely determined by the method of price regulation applied, which in all three cases follows the idea of the rate-of-return approach without stipulated limits on the returns. However, a principal difference between the price mechanisms used is that for company A price adjustments over the years take place under a formula, which in light of increasing CPI has automatically ensured a respective increase in water tariffs (i.e. also in operating revenues). For companies B and C, no such automatic price adjustment (i.e. increased operating revenues) is prescribed in the regulatory contracts, and changes in water prices have ultimately been dependent on single decisions by the local governments. Hence, under information asymmetry between the water company and its regulator (local government) evolving distrust and conflicts can lead to regulatory discretion in reviewing water prices, which can harm the water company's ability to cover its costs and make investments for service improvement as seen in case C.

EU regulations

The EU directives (98/83 EC, 91/271/EEC) on water quality and environmental control described in section 1.3.4 have imposed large costs on local water authorities throughout Europe (Parker 2003, Hall and Lobina 2007) by requiring huge capital investments in water and sewerage infrastructure. The basis of the resource-based view, that size as well as type of capital are important features of financial resources that can affect the implementation of the company strategy (Barney 1991), turned out to be useful for exploring the case studies in terms of how the local governments and the case companies solved the task of modernizing their water infrastructure and providing water services in compliance with the abovementioned EU directives.

The case study shows that the ownership structure (and size) of the water company determined access to funds available for water infrastructure modernization in Estonia. Since the EU support funds had not been applicable to water companies with majority private ownership in Estonia (Avatud voorud

2010), out of the three case companies only company B could take advantage (i.e. low costs) of the EU grants to renovate its infrastructure. In case C, the local government and the water company arranged a special package of contracts that stipulated ownership, usage and financial rights and obligations regarding particular elements of infrastructure, which made it possible to renovate the most critical facilities (i.e. the water purification station and the wastewater treatment plant) with (90%) help from the support funds. In case A, where the city government had previously privatised the majority of its water company, the water company was not able to qualify for EU grants, and consequently, it financed the investment projects through bank credits, shareholder equity or compensations (e.g. network extension programme) paid by the city government from the city budget. Therefore, not private, but public ownership facilitated the modernization of water and sewerage infrastructure in the case studies explored here, which erodes one of the main rationales for private sector involvement in public services provision. Moreover, private ownership can be associated with extra costs for taxpayers in the municipality, when a relatively large part of all infrastructure investments made (e.g. 47% in case A) is paid directly from annual city budgets. However, in light of **research question 5 (RQ5),** as the case studies show, irrespective of ownership structure, close cooperation between the contractor and the provider (i.e. local government support) is required in order to secure financing for necessary water and wastewater infrastructure modernization and improvements in (non-financial) performance.

3.4.4. Accountability features and their consequences on the performance

Managerial accountability

Earlier in subchapter 1.1.1, it was argued that it is complicated to draw a clear distinguishing line between governance and management perspectives in the public sector and, that public management and governance issues are inextricably linked (Schedler and Siegel 2005, Hartley and Skelcher 2008). Still, governance was mostly viewed as a framework for value creation, while management answers the question of how value creation within this framework is executed. In other words, in the context of the case studies explored here, if governance (recent discussion) had much to do with the case companies' authority regarding water services production, then management (circle of arrows in Figure 18 to be discussed next) is largely about using resources for delivering performance in water services provision.

As also noted in the discussion earlier, in agency theory managers are perceived as agents that should act in the interests of the shareholders (Jensen and Meckling 1976). Stakeholder theory by contrast and as presented in subsection 1.1.2, supports the idea that the managers, having a unique position

in the firm (Hill and Jones 1992), should take care of the needs of all stakeholders and not only of the shareholders (Freeman et al. 2010). But stakeholder theory also states that not all stakeholders are equally important in the firm (Freeman 1984). Therefore, in the next part of the discussion, various aspects of the accountability of the CEO and the supervisory board of the water companies to their multiple stakeholders will be explained by bringing together aspects from the literature on stakeholder theory (Hill and Jones 1992, Näsi 1995, Freeman et al. 2010) in order to shed light on the stakeholders' relative power and importance in pursuit of performance in water service provision (Collier 2008b).

It was argued in subchapter 1.1.1 that although there is still some confusion around the term "accountability" (Mulgan 2000, Budding 2008), it can be summarized in two major questions: what is the actor accountable for and to whom (Bovens 2006). Based on the nature of the accountee (i.e. *to whom*), the following major types of accountability can be described based on public governance literature (Dubnick and Romzek 1987, Glynn and Murphy 1996, Bovens 2006): managerial, political and social accountability. In the case companies explored here, CEOs were primarily held responsible for achieving particular performance targets, and this coincides with a broader trend – the shift from process-oriented accountability to performance-oriented accountability (OECD 1997, Schwarz 2002), which is noted in NPM literature. In terms of managerial accountability, the CEOs of all three case companies report financial results on a quarterly-basis to their superiors, which have approved the company's annual budget. In companies A and B, the CEO presents reports on budget fulfilment and financial accounts (e.g. balance sheet, income statement) to the supervisory board. Besides company A, the CEO also submits financial reports to the dominant shareholder on a monthly basis. In company C, the CEO will discuss the results with the other shareholder in the company because annual budgets are approved by the AGM.

The quarterly financial reports are the primary control instruments for supervisory board members in companies A and B, where financial results are a key topic of discussion in supervisory board meetings. From the managers' perspective, these financial reports are relevant because their remuneration is dependent on corporate financial results presented for board evaluation. In addition, budget fulfilment makes it possible to ensure the trust of the board. In company C, the budget does not perform such a role because the CEO as shareholder does not get bonuses based on quarterly financial results, but in the form of dividends at the end of year and only if the company has earned a profit.

The management of company A, unlike company B, also informs the shareholders of interim financial results because they are listed and therefore required to report such results by the stock exchange. As opposed to giving an account to the supervisory board members, the management never presents actual financial results against budget estimates to small investors through the stock exchange. However, regular reporting to the stock exchange in pursuit of investor

confidence and higher share value has made company A significantly more transparent than companies B and C for the general public.

Accountability initiatives are usually neither completely voluntary nor entirely predetermined (Van Dooren et al. 2010). In the annual reports of the case companies explored here, prepared by their management for the supervisory board and AGM approval, there is a remarkable difference in the type of performance information that is included and how it is presented for the users of those annual reports. As presented in subchapter 3.3, in case B and C, the annual reports comprised only mandatory annual accounts and a relatively poor management (activity) reports on a few pages without measurable and comparable information on changes in efficiency or the quality and affordability of water services (see Tables 21 and 24), which could be of interest to water users. As argued by Van Dooren et al. (2010) in subchapter 1.1.4, comparisons of current with past performance are useful for account giving. So in company A, besides the management report and mandatory financial statements, there is also a professionally designed and illustrated yearbook – an extended annual report providing a comprehensive overview of the company's financial and non-financial performance for the year. The yearbook, first introduced years before going public, can be viewed as targeted marketing material from the management aimed to build a positive image of the company (e.g. it demonstrates achievements, but says nothing about water prices) not only in the eyes of a relatively large number of shareholders but also the general public (e.g. media, customers, public agencies).

Political accountability

Within democracies, political accountability is considered an extremely important type of public accountability (Bovens 2006), which is about responsiveness to external stakeholders (Budding 2008). As noted in subsection 1.1.1, accountability can be described in this context as a chain of principal-agent relationships (Strom 2000, Bovens 2006), where at one end of the chain there are voters and at the other end executive public servants (Bovens 2006). In company B, the previously explained managerial accountability of the CEO to the supervisory board, which comprises only elected members of the city council, can be viewed as an example of political accountability. Moreover, the CEO himself is an elected member of the city council. Thus, in a certain sense, the CEO as a member of the city council has rendered account directly to the voters at election time (ibid.). This can be seen as one explanation for why the city government has rather distanced itself from the management of company B. Besides, the CEO, the chairman of the supervisory board, the mayor and the deputy mayor responsible for communal services, all belong to the same political party in power, which also functions as an important informal political forum (Bovens 2006). The CEO and the chairman give an account to the city government only once a year, when they together present the annual report to

the mayor for signing. As the deputy mayor said during an interview, the city government does not consider exercising more control mechanisms over the water company necessary because "our business model relies very much on trustworthy and ambitious management." To sum up, due to membership in the city council (accountability relationship with voters) and in the political party in power (trust), the CEO has enjoyed considerable autonomy from the city government (i.e. from politicians executing power). However, the trust-based governance model in case B foresees that the bureau under the city government, which should exercise control over the enforcement of national and local water regulations, is actually not staffed and has only one senior specialist involved in these issues. As the deputy mayor also said in an interview "this person is more like a coordinator." Because the services contract between the city government and company B, as opposed to case A, does not stipulate any specific levels of service for the water company, there is no respective account giving on non-financial performance from the CEO to the city government (or its units) as regulator either.

In company A, the CEO's accountability to the supervisory board, which comprises three political members of the city council or the city government, could also be viewed as an example of political accountability. However, this is a rather weak example because the CEO is primarily accountable to the representatives of the dominant shareholder that according to the shareholders' agreement exerts control over the management (e.g. seconds the CEO, remunerates the CEO, gets more frequent financial reports). Nevertheless, a stronger chain of political accountability is established under the services contract, which requires the management of the water company to report on compliance with the levels of services to a special supervisory foundation, an arm of the city government. As described earlier in subchapter 3.3.1, most of the board members of this supervisory foundation, including the chairman, are active in politics (e.g. city council, state parliament) and come from the political party in power in the city government. The supervisory foundation was established after the privatisation of company A as a monitoring unit, not as an economic regulator. It has the right to make recommendations to the city government on sanctions to be applied against the water company in case of non-compliance with the stipulations of the services contract. Thus, considering all the above-mentioned, and that the possibility of sanctions is a constitutive element of accountability, which form the difference between the non-committal provision of information and being held account (Mulgan 2003, Strom 2003, Bovens 2006), it can be argued that through the supervisory foundation, the CEO of company A is politically accountable to the city government for the non-financial performance of the company.

In company C, as opposed to companies A and B, the CEO does not report to the city government (or its units) either for the non-financial or financial performance of the water company. With one relevant exception (i.e. the final decision on water prices), the city government did not have control mechanisms

(e.g. services contracts, sanctions, awards) in use in order to hold the CEO to account for the performance that was expected by the city mayor as a 'significant other' (Bovens 2006). However, the unclear regulatory rules (e.g. requirements on cost data) and poor accountability instruments (e.g. overall annual accounts) in use by the city government did not help the CEO in pursuit of his economic interests (i.e. revenues through the increase in water prices) in the contractor-provider relationship. This facilitated opportunistic behaviour on both sides and a stalemate in decision-making regarding water prices was the imminent result. Consequently, in case C, the water company was not able to cover its costs at the given water tariffs. Therefore, in light of case C, it could be argued that greater transparency and established accountability to the city government as the regulator should also be in the interests of the water company in order to avoid the conflicts that can harm the company's financial sustainability.

However, another interesting accountability chain, that also illustrates the strategic management of water services provision in Estonian municipalities, appears when exploring how the local governments set their long-term goals in the public water supply and sewerage system development plans (WDP), and how they later report against these goals. As discussed in subchapter 3.1.2, the local governments should develop their water systems in all municipalities based on these primary long-term plans approved by the city council (Public Water Supply…2010). In all the cases explored here, the managers of the water companies that possess the professional know-how and competence had a crucial role in providing the external consultants, hired to prepare the plans, with the necessary (input) information on the current conditions and development needs of the water systems. Moreover, in case B, it was the corporate management itself who arranged the preparation of this long-term development plan and mostly determined the performance targets for the city government. In companies B and C, the CEOs considered the WDP more like a vision document, which has its practical value when the water company applies for EU grants – if your project is not listed in the development plan, you will not qualify to apply for a grant[60]. In case A, the development plan makes it additionally clear that the implementation of incorporated investment programs is contingent to the contracts signed during the privatisation, and later between the city government and the water company. Or, as the CEO of company A claimed during an interview, "the city as shareholder has approved our business plan and they should not be confusing them."

In regard to giving account to the members of the city councils about moving towards the strategic goals approved in the development plans, then only in case B, did the CEO of the water company along with a specialist under the city government make a general overview to a committee of the city council once a

[60] Consequently, many renovation or construction objects were potentially incorporated in the development plans.

year. In the other two cases, there is no such requirement for the water company to give an account of achievements against the goals in their development plan to the city council or city government. To sum up, preparing these strategic development plans could primarily be viewed as a mandatory legal requirement to be met by the local governments, but not as a governance tool to make the managers of the water companies, who in fact develop the water systems in their cities, more accountable for their performance to the elected representatives in the local government. Moreover, this would be complicated because the water companies' own action (business) plans and budgets are not clearly integrated with these long-term development plans approved by the city councils through performance indicators.

Social accountability

It was noted in subsection 1.1.1, that carried by the debate on corporate social responsibility and the perceived trust in government, the need for more direct and explicit accountability relations between public agencies and their clients or citizens is stressed in general (McCandless 2001). The internet has opened up new opportunities for enhancing social accountability (Bovens 2006) because having a website and continuously improving its content is a means of ensuring public transparency (OECD 2010a). The websites of the case companies differ a lot in terms of what performance data is presented to web visitors and how. The performance information published on their web pages is described in more detail in subchapter 3.3 (see Tables 19, 22 and 25); however, in general terms, company A, relatively speaking, provides the most comprehensive comparative overview of its financial and non-financial performance and corporate governance principles. It seems that in company A, which is listed on the stock exchange, web-based communication in three languages to different stakeholders – clients, stock investors, media – has become part of a wider communication strategy for maintaining trust and increasing share value. Interestingly, at the same time, the supervisory foundation, a special monitoring unit over water companies established by the city government after the privatisation of company A, does not provide any information to the general public on company A's compliance with the levels of service from the services contract.

Company B's website remains significantly less informative on performance with less content. The publicly owned company B does not publish any financial data (e.g. annual reports are not available) on the website and the selected data on water quality, production volumes and water prices is not presented in a comparative way as it is by company A. However, the website of company C is almost without any content at all, providing only information on company contacts, currently valid water prices and news on coming procurements. Hence, the publicly listed company A is clearly the most transparent water company among the case companies with comprehensive performance data available for its stakeholders. Publicly owned company B avoids publishing any

financial data for the general public on its website. The governance and performance of company C through its website remains hidden from the general public. It was noted in section 1.1.1 that the publication of performance information tends to increase pressure on organizations, which seems to hold true in the context of recent national regulatory arrangements (i.e. the establishment of central economic regulations in 2010) in order to reduce the profitability of company A. Thus, there can be relatively 'high stakes' related with external accountability for the organization (Van Dooren et al. 2010).

All in all, and answering to **research question 6 (RQ6)** – how do the accountabilities make it possible for the governance actors to achieve their objectives in the water company – it can be stated that the given managerial accountabilities to the shareholders or their representatives on the supervisory boards of the case companies made it possible for the CEOs to create trust towards their efforts and obtain freedom for managerial decision-making. Moreover, in companies A and B, the account-giving to the supervisory boards for financial results makes it possible for the CEO to earn corporate profit-related bonuses, motivating them to increase the efficiency of the companies. For the 'significant other' the established managerial accountability systems made it possible to reduce information asymmetry, execute control over the CEO and direct him towards achieving the corporate (financial) objectives.

The established political accountability chains indicate that realistic and clearly measurable non-financial performance objectives (indicators) from the local strategic development plans (e.g. WDP), budgets and regulatory contracts need to be linked to allow the local governments as contractor (regulator) to direct the performance of water companies towards long-term objectives. However, the use of such performance indicators allows performance monitoring, evaluation and applying sanctions in the case of the water company's non-compliance with agreed performance targets (e.g. case A). Otherwise, results reporting, if any, can be considered simply (formal) information sharing (e.g. reporting on the WDP goals in case B) without obvious effects (effective decisions) on the performance of water services provision. However, the lack of political accountability (as in case C) can lead to political discretion in local government decision-making, which can harm the financial performance of the water company and the viability of the services provision.

Finally, social accountability and transparency can be viewed as a practical means for improving corporate image and trust in the eyes of the general public, which tends to be considered relatively more relevant in publicly listed companies (company A). Being relatively more transparent (on the internet) and accountable to the general public for its (good) performance makes it possible for corporate managements to communicate desired messages to external stakeholder groups (e.g. high service quality to citizens). However, relatively high transparency means that the external stakeholders can respond to any available performance information (e.g. also high profits), which can spur undesired performance influencing actions by them (e.g. public dissatisfaction

resulting in stricter regulations). Therefore, remaining relatively less transparent in terms of corporate financial and non-financial performance (like in case B and C) allows the managers of the water companies to work 'undisturbed' in the interests of their principals (e.g. shareholders) in terms of performance.

3.4.5. Trade-offs between financial and non-financial performance

Performance for public service bodies is typically constructed with reference to the metrics of effective implementation, productivity, service outcomes and client satisfaction (de Bruijn 2002). It was noted in subchapter 1.3.1 that the affordability and quality of the delivered water services as dimensions of non-financial performance are what water users ultimately care about. At the same time, from the shareholder perspective, the water companies as business entities operating under commercial law are expected to earn a profit. The case studies explored here reveal different trade-offs between the financial and non-financial results in water services provision. In terms of the quality of drinking water and effectiveness of wastewater treatment during the observed period there has been a recognisable improvement in all three cases. Previous quality and environmental problems have been resolved and the supplied drinking water and treated wastewater now meet EU standards in all cases[61]. However, differences appear in the affordability of water services between the three cases, where households pay significantly less (1.3%) of their average disposable income for water services in cases A and B than in case C (2.7%). As shown in Appendix 8, the gap in water services affordability has increased rapidly in the case towns in recent years. Nevertheless, the affordability index remains below the threshold of 3–5% suggested by some international organizations such as the World Bank or OECD (OECD 2003) in all three cases. Still, in cases A and C, there exists cross-subsidizing between residential and commercial consumers – the commercial consumers pay respectively 2.3 and 1.3 times more than the residential consumers. Only in case B is there no gap in water prices between the different consumer groups.

A drastic difference between water companies appears in terms of their financial performance, i.e. profitability. While company A has always been profitable with a net profit margin between 30–45% for most of the years since privatisation, the publicly owned company B's net result has been volatile during the same period – from a loss at the beginning of the observed period to moderate profitability (e.g. net profit margin 8–9%) in the last years. In case C, the water company's profitability has also been rather volatile during the same period; however, a moderate profit (e.g. net profit margin 3–9%) at the

[61] There is an exception regarding concentration of natural radionuclide in the drinking water, that exceeds the norms in case A and C.

beginning of the period has become a loss (e.g. net margin –9%) in the last years. Consequently, the shareholders in company A have been able to distribute dividends that they have made every year at a solid (65–90%) dividend payout ratio. In case B, the publicly owned water company has never distributed dividends to its shareholder – to the city government. In case C the two private shareholders of the water company withdrew dividends each year (payout ratio 35–52%) the company earned a profit. Thus, there is a principal difference in approach to dividend payout between the water companies, where all or the majority of the shares belong to private shareholders (companies A and C) and the publicly owned company B.

To sum up, in case A, the water services are provided by the water company in compliance with EU quality and environmental regulations, there is good service affordability for consumers and strong profitability for shareholders. In case B, the compliance with quality standards and good service affordability are ensured in return for moderate corporate profits. In case C, the quality requirements are met at significantly lower affordability of water services, while the water company is not able to recover its operating costs. Answering to **research question 7 (RQ7)** – what are the trade-offs between financial and non-financial performance in the water companies – it can be stated that in companies A and C, which are under private owners, there is a biased trade-off between the financial and non-financial performance either towards one or other of the performance dimensions in comparison with publicly owned company B. Moreover, the biases in the performance of water services provision have given rise to legitimacy issues. Specifically in case A the relatively higher profitability of the water company caused some dissatisfaction among the citizens and politicians, which ended up with tightened and centrally applied economic regulations in 2010, as noted in subchapter 3.1.2. In case C, however, the weak financial performance of the water company was part of the legitimacy issue that appeared during conflict over water price establishment, when the city government was not willing to increase water prices without seeing the water company change its service quality.

3.4.6. Theoretical implications

Based on the arguments given in the previous part of the discussion, the following subchapter serves to provide propositions to contribute to the theory about how the ownership structures, dependent on the governance mechanisms applied, can influence the performance of water services provision.

In summary of the previous discussion, the results of the case study analysis presented in Table 27, makes it possible to present three different governance patterns on how the water companies, each with a different ownership structure, are governed and how the different patterns influence their financial and non-financial performance. In case A (mixed public-private ownership with private majority), the governance approach to water services provision can be referred

to as *rule-based via contracts,* where strict and detailed contracts as central regulatory instruments leave relatively less room for discretion in decision-making. In case B (public ownership), the governance approach can be referred to as *trust-based via the board*, where the decisions made by supervisory board members, relatively less restricted by detailed rules, determine the performance of water service provision. In case C (private ownership), the governance approach could be seen as *discretion-based without a contract and board*, where the rival interests of the governance actors (e.g. CEO and mayor) constantly compete with each other without clear *ex ante* rules of the game. With regard to performance, in each case there is a different trade-off between the financial and non-financial results influenced by the setup and use of governance mechanisms by the actors when pursuing their distinct interests.

Different ownership structures embody distinct goals, patterns of authority, responsibility and economic incentives. A widely accepted view is that private companies will outperform *ceteris paribus* publicly owned companies (Megginson and Netter 2001). Since the publicly owned company form is peculiar to the public sector, it has been seen as pre-modern and associated with the assumed deficits of traditional public administration (Wettenhall 2001). It was claimed in subsection 1.1.2 that the theoretical basis for this view derives largely from the aspects of property rights theory (Alchian 1965, Demsetz 1967, De Alessi 1983, Asher et al. 2005) and public choice theory (Tullock 1965, Niskanen 1968, Ostrom and Ostrom 1971, Stretton and Orchard 1994), where the combination of poor supervision and self-interested managers is expected to create managerial discretion and inefficient behaviour in publicly owned companies.

In the context of privatisation, Vickers and Yarrow (1988) indicate in section 1.3.4 that in the case of water companies as natural monopolies 'the degree of product market competition and the effectiveness of regulatory policy typically have rather larger effects on performance than ownership per se.' Indeed, the findings of the quantitative research in the present dissertation (subchapter 3.2.) revealed that ownership does not influence performance *per se*, but as the case study (subchapter 3.3.) showed, the effects of ownership on performance are related to the governance structures applied in each case.

Regulation is considered relatively more important if the service provider is a profit-oriented private monopoly, while the publicly owned monopolies are perceived to act in the public interest (Vinnari 2006). Agency theory, discussed in subchapter 1.1.2, provides the main theoretical framework for analyzing interactions between the government authorities responsible for public services provision and publicly or privately owned entities involved in the provision of public services (Doherty and Horne 2002, Grossi and Reichard 2008). A core question in agency theory is about how to design contracts between the principal and the agent under conditions of incomplete and asymmetric information when the interests of the principal and the agent diverge (Sappington and Stiglitz 1987). In other words, in light of the externalization (Doherty and Horne 2002, Torres and Pina 2002, Dexia Crediop 2004, Reichard 2007) in

water services, there emerges a question about how the relationships between the local government as contractor (regulator) and the private partner as service provider should be regulated in order to enable the government to reach the public goals it sets.

Brown et al. (2006) point out market characteristics as a key factor influencing the shape of contractual relationships, considering that efficient markets make it possible to avoid agency problems. Araral (2008) suggests that the monopoly characteristics of water supply imply the need for price, quantity and quality regulation. Shirley (2006) characterizes water supply as being mysterious; that is, missing information is pervasive. Lane (1999) in his discussion of the theoretical considerations of contractualism, emphasizes some potential advantages of using contracts in the public sector – contracting involves the stipulation of a clear condition about what has been agreed to, what is to be delivered, who is to pay and what additional obligations have been consented to? Hence, the advantage of contracting stems from incorporating both supply and costs into one contract (ibid.), which in the context of water services means that both the level of service and the water price (mechanism) are stipulated in the regulatory contracts. Foster (2005) argues that complementing water price stipulations with quality-of-service regulations has tended to be much more significant in cases where private sector participation has taken place because the private water companies may have the incentive to compromise the quality of the service as a cost-cutting measure.

In the context of agency theory, what the principal wants to avoid is the worst outcome – paying a high compensation to an agent who shirks. But how much is high? And is the agent really shirking when there are no clear performance targets agreed? Under lax or missing regulation, opportunism will sooner or later occur. In fact, as case C with private provision reveals, without tight services contracts, both sides – the local government (mayor) and the water company (CEO) – can behave opportunistically. The local government may reject price proposals when those do not match its expectations, regardless of whether the water company is actually able to recover its costs or not. By blaming the water company, the local government attempts to rid itself of responsibility and gives the impression of firmness and control (Lane 1999). The CEO of the water company again may choose the 'shirk' strategy for the simple reason that it is expected to pay off properly. And if the government should figure this out, it could be possible to deny it.

Case C indicates that a series of agency problems is inevitable, if the fundamentals have not been correctly established in the relationship with the private provider. Executing control can be defined as a process to provide reasonable assurance regarding the achievement of objectives (COSO 2008). To the extent that being in control is crucial, the first question that needs to be answered is what one wants to achieve – one has to define targets (Van Dooren et al. 2010). In order to mitigate opportunistic behaviour by the agent, clear performance

measures, complemented with incentives and sanctions, should be stated in the contracts by the principal (Brown et al. 2006, Van Dooren et al. 2010).

Secondly, clarity in conditions (e.g. service quality indicators, tariff setting) and priorities is crucial in order to avoid misinterpretations and future conflicts. For example, a water tariff design should be easy to explain, understand and implement. Moreover, even the most carefully designed water tariff could require certain trade-offs because all the performance objectives cannot probably be met simultaneously (e.g. full cost recovery *versus* high service affordability) (OECD 2010b, OECD 2010c).

Last, but not the least problem stemming from weak regulatory contracts is a lack of transparency and accountability for performance, if the reporting obligations are not specifically stipulated or they are missing altogether as in case C. Information is power and the water company has strong incentives to abuse this strategic advantage by undersupplying or distorting the information supplied (Foster 2005). Moreover, the standard financial reports cannot be readily interpreted for regulatory purposes unless they are prepared according to special regulatory accounting guidelines. Therefore, reporting requirements (data, format, frequency) should be stated in contracts as precisely as possible in order to mitigate the fundamental problem of regulation – asymmetric information.

At the heart of accountability is also the right of appeal (Parker 1999). The OECD (2010c) suggests that services contracts should include formal dispute resolution procedures. Case C showed that under a lack of transparency and accountability, solving conflicts through the courts costs a lot of time and money, while during the stalemate in regulatory decision-making the viability of water services provision can be impeded. Therefore, accountability mechanisms are to be established between the local government and its private partner in the beginning of the cooperation in order to avoid distrust and mitigate conflicts from possible opportunistic behaviour from either or both parties. Thus, based on the findings and the previous discussion of the dissertation, it could be proposed that:

> **Proposition 1:** Water services provision by a privately owned company without a clear *ex ante* written set of rules is likely to cause agency problems between the local government and the company, which can impede regulatory decision-making and consequently harm the viability of the water services provision.

Still, the challenge to compile a contract that motivates the agent to pursue the principal's interests in public services provision is not only related to private, but also publicly owned companies. However, a built-in problem of public services provision by publicly owned companies relates to conflicts of interest, when the local government acts as both the contractor (regulator) and owner at the same time (Shirley and Nellis 1991, Grossi and Reichard 2008, Araral

2008). Consequently, the managers of publicly owned companies with multiple principals have to strike a balance between a number of financial (e.g. profit) and non-financial (e.g. reasonable price) objectives.

In the case of multiple divergent objectives, managers can justify the failure to meet one target as the cost incurred by their attempts to meet some other (Mallin 2004). From the governance perspective, a feasible solution for the local government as principal would be to specify the balance between the various objectives (Health and Norman 2004) of its water company. In practice, information asymmetry can become an obstacle again for a local government. The need to reduce information asymmetry between the regulated firm and the regulator is one of the main arguments for specialized regulatory agencies. Bartle and Vass (2007) argue that this cannot solve the problem, but creates another information asymmetry within the public authority between the government department and the regulatory agency. Moreover, constructing a quasi-market for the allocation of goods and services by means of the contractor-provider split may become just as artificial as a bureaucracy (Lane 1999).

In the case of public ownership, a visible governance tool in the hands of the local government for directing water services production is the corporate board. In the governance literature, the (supervisory) board is seen primarily as a shareholder representative body; however, in the specific context of publicly owned companies, as revealed in case B, there could be arguments for giving the (supervisory) board a role in balancing financial and non-financial objectives related to public services provision. First, some regular reporting routine is usually established (i.e. written reports, hearings) from the CEO and the (supervisory) board members already. Secondly, the reports are usually not limited to financial data but complemented with contextual non-financial information too. Even if the (supervisory) board members focus merely on meeting financial targets, they also have to consider non-financial assumptions (e.g. customer characteristics, legislation) in planning and monitoring in order to meet the financial targets. Thus, irrespective of the local government departments and monitoring units, in a way the (supervisory) board members tackle the problem of information asymmetry in the water company anyway and look for a trade-off between divergent financial and non-financial objectives. This provides good reason not to establish another institution (principal) to control the managers of the publicly owned water company.

The main counterargument for why the balancing exercise could not be entrusted to the (supervisory) board members in publicly owned companies is based on the view that these companies suffer from political interference being useful in keeping politicians in power (Boycko et al. 1996, Araral 2008). Thus, the question is how to keep the (supervisory) board away from party political interventions and staff it with members able and motivated to direct the water company towards balanced financial and non-financial results and ensure the viability of water services provision. Case B indicates that a solution could be to name the (supervisory) board members among elected members of the city

council interested in achieving social objectives, who in their professional life are influential and respected entrepreneurs, business managers or economists. Both the business and social views are embodied in the (supervisory) board members and their influential position in society, or the city council helps to prevent political interventions from party offices. Thus, based on the previous discussion and findings of the case study, it can be proposed that:

> **Proposition 2:** In a publicly owned water company the board can fulfil the dual role of local government effectively, if distanced from party politics and staffed with business-oriented representatives from municipal council to balance financial and non-financial objectives regarding water services provision.

Obviously the combination of financial (economic) and non-financial (social) objectives generates complexity and ambiguity in the management of publicly owned companies. Therefore, clear objectives are advocated so that the agent knows what the principal is expecting from him (Thomas 1998, Llewellyn 1998, Koppell 2003, Van Dooren et al. 2010). What additionally seems to be especially important in the case of publicly owned companies is that the manager (CEO) understands well the surrounding political context because the (divergent) objectives for public services provision can be established not only by the (supervisory) board but also within political domains (e.g. city council). Case B reveals that the CEO's active membership in the city council, if complemented with a professional business-like management approach and profit rights in the water company, can facilitate the achievement of both good non-financial and financial results in water services provision. Therefore, based on the findings of the case study it can be proposed that:

> **Proposition 3:** The management of a publicly owned water company by a member of a municipal council with professional know-how and profit rights in the company embodies the interests and potential to ensure the combination of good non-financial and financial performance in water services provision.

The regulatory relationship between the local government and the water company is inherently evolving and cannot be specified fully *ex ante* in any contract (Parker 1999). Discussions and contacts beyond official reporting deadlines is necessary in order to reinforce trust (Bovens 2006) that Lapsley and Kilpatrick (1997) have called the heart of effective regulation of utilities. Moreover, case B shows that shared informal norms can replace *ex ante* tight rules (e.g. monitoring by city government or departments under it) in the case of public ownership, when trust is reinforced and control ensured through other mechanisms, like the manager's and (supervisory) board members' activism and visibility in the political domain (e.g. in the city council). Van Dooren et al.

(2010) suggest that governing through trust and values represents one of the cheapest and most effective approaches to governance. The difficulties come, of course, if the governors change; for example, there is a change in the governing coalition and there is a new set of values to guide decisions (Peters 2010). Still, based on the findings of the case study, it can be proposed that:

> **Proposition 4:** Trust reinforced by the management and board members of a publicly owned water company in the political domain, may enable the local government to avoid using mechanistic and relatively costly control instruments for ensuring the required financial and non-financial performance in water services provision.

The results of mixed public-private ownership on company performance are not clear from the theoretical perspective (Bös 1991, Ehrlich et al. 1994, Oum et al. 2006, Marra 2006, Vining and Boardman 2008). Bös (1991) suggested that mixed ownership may facilitate the role of the government as a 'steward' in private firms dominated by a strategic investor or where there is a lack of market discipline. Mixed ownership is argued to be an optimal combination mitigating the disadvantages of pure public and private ownership (Schmitz 2000), but it may also embody the worst of both worlds (Vining and Boardman 2008). With regard to agency theory, case A provides support that retaining some ownership allows the public authority to gather more information about the actual costs (i.e. supervisory board materials) of the company and mitigate information asymmetry (Schmidt 1996). Argento et al. (2010) emphasized that the problem of interest conflict, when local government has a dual role of contractor (regulator) and shareholder, also applies to mixed ownership companies, including those listed on a stock exchange. Case A illustrates the distress of local government stemming from a minority ownership in the water company under private management and a tight services contract (e.g. fixed prices and levels of service), which does not make it possible to dictate (flexibly) financial or non-financial targets to the company management. As a key advantage of the mixed public-private ownership, the local government as shareholder can benefit from efficient and professional private management through strong distributed dividends, which would not have been available in the case of full private ownership.

Grossi (2007) points out that a company with mixed ownership can be a potential conflict point between the partners. Conflict may arise when social value – satisfaction in the administered community – is not adequately reconciled with economic value. Case A reveals that if the company or the shareholders has not violated any of the tight contracts (e.g. services contract, shareholder agreement) signed between the parties, there will not arise obvious conflicts between the partners. This does not mean that there cannot be any critical politically motivated opinions on valid services contracts communicated by local politicians from the city government or council to their electorate. Thus,

the creation of a clear regulatory system is critical for accomplishing each partner's distinct objectives. Therefore, it can be proposed that:

> **Proposition 5**: Water services provision by a company with mixed ownership under private management constrained by a tight services contract provides a governance framework that can lead to a combination of good non-financial and relatively greater financial performance in water services provision.

Moreover, case A also showed that water services provision under a tight services contract by a company listed on the stock exchange is likely to lead to greater transparency, since the agreement specifies performance indicators, reporting and monitoring mechanisms and being listed provides the motivation (in pursuit of share value) to communicate both the financial and non-financial results publicly.

All in all, the three different ownership structures (mixed, public and private) have a different influence on the performance of water companies, which, dependent on applied governance mechanisms, can be both negative and positive. A water company can be tied to a local government either by a contractual relationship (private ownership) or by both a contractual relationship and an ownership relationship (public and mixed ownership). Private ownership, which is considered to be advantageous for high performance, tends to result in failure without a strong regulatory governance regime (i.e. strict regulatory contracts and accountability procedures). The private management of a water company (with mixed public-private ownership) can lead to relatively greater performance if the rights (e.g. water prices) and obligations (e.g. accountability) between the partners are clearly fixed in strict regulatory contracts. Public ownership, which is often considered to be old-fashioned and ineffective, can lead to good performance even without strong contractual arrangements when the water company is tied to the local government on a professional basis via a (supervisory) board; in other words, if populist political pressures are not present and the board is the main governance mechanism composed of members of the municipal council with extensive business knowledge.

CONCLUSION

Performance improvement in public services is recognised as a goal for many governments, and has resulted in a variety of public governance reform initiatives in Western democracies. The externalization of public services delivery as an important feature of public governance reform agendas has created a range of corporate forms and managerial solutions (e.g. agencies, government-owned companies, public-private partnerships etc.) in pursuit of greater performance. However, current knowledge about how governance arrangements actually influence the performance of public services is scarce and fragmented, since there is relatively few studies exploring the relationship between governance and performance in the public sector compared to the private sector. Moreover, empirical studies largely test links between particular easily measurable 'hard' governance attributes (e.g. the size of the board) and financial results (through quantitative research methods), while they neglect the issue of relationships between the governance actors related to decision-making processes. Therefore, by applying a more holistic research approach, this study aimed to provide an in-depth understanding of how local governments set up and use governance mechanisms for public services provision and how the different governance patterns determine financial and non-financial performance in public services. The present dissertation seeks to contribute to the scientific debate on governance-performance relationships through research conducted in the Estonian water sector.

The present dissertation consists of three chapters. The first chapter creates the theoretical basis for the research. In the second chapter, the research framework and research methods along with data collection principles are introduced. The third chapter consists of the empirical analysis followed by discussions of the study results.

Theoretical background for finding the relationship between governance and performance

The theoretical part of the dissertation connected different streams of governance and performance literature, such as *corporate governance, regulatory governance, public services management, performance measurement and management*, to propose a theoretical framework for analyzing the influence of governance on performance in the context of water services holistically. The key aspects of this framework are pointed out below. The first theoretical subchapter began by providing the main concepts applied in the study – corporate governance, accountability and performance. Since governance, accountability and performance are broad and varied concepts their various dimensions were discussed, and based on the discussion, some theoretical relationships between them indicated. Of importance to this dissertation was the

recognition that while in general corporate performance can be influenced through establishing a corporate governance and accountability system, differences in corporate governance and accountability practices can also result in differences in performance. Corporate governance and accountability were viewed as a framework that embodies a set of mechanisms influencing how the governance actors interact with each other in public services companies. Through these interactions (e.g. in reporting, decision-making) the performance of a single organization or a network of organizations can be achieved.

The conceptualization was followed by a review of the main theories related to corporate governance in order to understand the different interests of governance actors and the role of ownership in determining corporate performance. Agency theory, stakeholder theory and stewardship theory provided various (e.g. conflict *versus* consensus) perspectives on the interests of governance actors regarding corporate performance. Through different theoretical approaches, these theories addressed the importance of goal alignment between the governance actors in determining corporate performance. Moreover, property rights, public choice theory, transaction cost and industrial organization theory used together made it possible to provide deeper insights into the ownership-performance relationship. Property rights and public choice theory suggested that privately owned companies are likely to outperform publicly owned companies, while transaction cost and industrial organization theory emphasized that the influence of ownership on performance depends on the nature of the industry the company is involved in.

Thereafter, in light of the interests of governance actors stemming from the corporate governance related theories, the present study turned to explore the main functions of corporate governance mechanisms (i.e. coordination and safeguarding) that can be viewed as a response to agency problems in a company. It was discussed that various corporate governance mechanisms interact and may be used as substitutes or complements in a company. Importantly it was found that corporate governance mechanisms may improve corporate performance through better coordination and supervision over managers. Among other governance mechanisms, the (supervisory) board appeared as a central governance mechanism available for shareholders' use in pursuit of their performance objectives in a company. Of importance to this research was the recognition that board contingencies, elements and roles in combination can influence how the board members fulfil their roles and ultimately how the board influences corporate performance.

A relevant part of the present study sought to explore the theoretical requirements for performance measurement and management systems to supply stakeholders with appropriate performance information in controlling and influencing corporate performance. It was noted in the literature that information asymmetry is the cornerstone of agency conflicts and the availability of performance-related information plays an important role in aligning the interests of governance actors through established governance mechanisms. The

discussion of the present study indicated that clearly stated objectives and appropriate performance measures are needed for controlling and influencing corporate performance. Moreover, in order to ensure accountability for (multifaceted) performance and enhance the achievement of various interrelated goals, it becomes important to link different management processes through a systematic use of performance measures. However, considering that different actors may be accountable for the achievement of different (long-term and short-term) goals, it was argued that a performance measurement and management system seeks to enhance coherence between them.

The second theoretical subchapter took the governance-performance discussion further into the context of public services provision by expanding the focus from governance interactions within a single company to interactions between a public services company and local government. It discussed the fact that as result of externalization in public services, the services are being provided by specialist companies with public, private or mixed public-private ownership structure. The changed role of local government was to act as a contractor (service purchaser) that plans and monitors the public services provided by those specialist companies. This change introduced a set of specific governance mechanisms – contracts – into the public governance system to influence performance in public services provision. However, a fundamental conflict of interests influencing corporate performance relates to the dual role of local governments as contractor (mainly interested in non-financial performance) and owner of the company providing the public services (mainly interested in financial performance). Setting up mechanisms that make it possible to solve the conflicts stemming from the contradictory financial and non-financial interests of the local government was argued to be a major challenge in public sector corporate governance. All in all, it was suggested that different institutional choices of externalization embody promises of performance improvement regarding efficiency and effectiveness in public services provision; however, the effects are largely dependent on other governance arrangements (e.g. contracts) and the particular industry context (e.g. level of competition). The empirical results of previous studies indicated that the results of externalization in public services are contingent and there does not exist a single performing governance solution across public services companies. In order to formulate propositions to contribute to the theory and with practical implications, it was necessary to acquire a deep insight into and consider the characteristics of particular public services.

Consequently the third theoretical subchapter of the present dissertation remained focused on the governance-performance relationship in a specific public services sector – water services. The discussion of relationships between governance and performance in water services addressed the notion of a natural monopoly and closely related specific features of water companies. The discussion raised a number of specific questions regarding the economic regulation of monopoly water companies as one of the major governance

concerns for achieving efficient and effective water services provision. The discussion explored the fact that the different regulation methods for controlling the behaviour of water companies embody different degrees of incentive for performance improvement. The introduction of regulatory contracts was viewed as a tool for establishing the rules of the game, which makes it possible for the local government to influence performance in water services provision. Moreover, the introduction of separate regulatory agencies was recognised as an attempt to insulate the management of water companies from political interference (by local governments) that can erode the performance of water services provision. All in all the regulatory governance initiatives sought to introduce some market-like management pressure on monopoly water companies to push them towards greater efficiency and effectiveness in their operations. The results of the empirical studies were divergent and did not provide conclusive evidence on the superiority of public or private ownership regarding the performance of water companies. They revealed that the improvement of financial and non-financial performance in monopoly water services provision depends largely on the type and strictness of the control, and that for successful externalization in water services, it is important to have proper governance institutions in place, which are able to mitigate information asymmetry for ensuring the achievement of the often divergent performance goals of the different governance actors (e.g. service quality and profits).

Finally, the discussions of governance, performance and their relationships in public services provision and more particularly in water services were incorporated into a tentative framework to be used as the basis for research questions that allow us to analyze the influence of governance on the performance of water companies in the empirical part of this dissertation.

The research methodology and data

The empirical research of the present dissertation was conducted using both quantitative and qualitative research methods; therefore, it embodied elements of a mixed-method research. The first part of the empirical research comprised a quantitative analysis of the influence of ownership and corporate size on the technical (operational) efficiency of Estonian water companies. The quantitative analysis of this dissertation proceeded in three major steps. The first step of the analysis involved the application of a Data Envelopment Analysis (DEA) to obtain year-by-year efficiency scores for the sample water companies. In the DEA, operational expenses as a single input variable and three output variables – population served, drinking water produced and sewage treated – were considered. After obtaining the DEA scores, the average impact of external factors (i.e. ownership form and corporate size) was estimated. This was accomplished through the second-stage parametric regression analysis, where the external factors were regressed on the derived efficiency scores,

which are truncated; that is, limited to an interval of [0, 1]. The routine followed here was the maximum likelihood estimation of a truncated regression model complemented by bootstrap simulations. In the last stage of the analysis, a series of one-way Analysis of Variances (ANOVA) tests were conducted to examine the differences in mean efficiencies and profitability between water company groups based on ownership type, corporate size and corporate size-ownership type criteria.

A panel dataset that included information about all major water companies in Estonia from 2005 to 2007 was used to test the effects of ownership structure and corporate size. The sample of the efficiency study consisted of 43 Estonian water companies that did not differ substantially in the services they deliver. However, the water companies of the sample varied across ownership and size dimensions. Ownership categories established in this study included public, private and mixed public-private groups. Proceeding from the principle of equal sample distribution and examples from the literature, the following criteria were set for dividing the water companies into size groups: small companies serve 501–3 300 people; medium 3 301–10 000 people; large 10 001–100 000 and very large companies provide water services to more than 100 000 people.

The second part of the empirical research of the present dissertation comprised a qualitative case study research to present notions of how the setup and use of governance mechanisms shapes the performance in water companies under their particular (public, private or mixed public-private) ownership structure. The present research concerned an *instrumental case study* approach and embodied mainly theory-building elements (vs. theory-testing in the preliminary quantitative study) since it aimed to describe the governance practices and achieved performances regarding water services provision, and explore more generally the relationships between specific features of governance (mechanisms, actors or processes) and (financial/non-financial) performance in the water companies. The present longitudinal multi-case study utilized the experiences of three water companies in different Estonian towns between 2000 and 2009. Two of the case companies are the two largest water companies in Estonia rich in complex corporate and regulatory governance issues, while the third is relatively smaller and provides an extreme example of the evolution of a performance eroding regulatory governance conflict in the Estonian water sector.

The empirical case study, defined as a descriptive and exploratory fieldwork, was conducted in two stages. In the first stage of the data collection, a thorough desk study was conducted in order to investigate relevant publicly available documents and materials about the case organizations, such as news articles, annual reports and articles of association for the water companies, local government strategies, annual budgets and consolidated financial reports, minutes of local government sessions and local government regulations regarding water services. In the second stage of this empirical research, a number of semi-structured interviews were conducted with key governance

actors involved in water services provision in these municipalities. The interviews were conducted with the top managers of the water companies and politicians and senior officials directly responsible for water services provision in/under the local governments. The fieldwork took place in the case organizations (i.e. water companies or city governments) and there were 13 tape-recorded interviews, which amounted to 18 hours of discussion and 285 pages of transcript. Most of the interviews lasted between 1.5 and 2 hours.

The case study research relied on primary and secondary sources. As the data for analysis was collected from multiple sources, it was possible to use triangulation (e.g. compare qualitative data with quantitative data) that guaranteed insights regarding the governance practices and increased the validity of the findings. The data were gathered from interviews, questionnaires and published materials, sectoral statistics, internal documents from the case organizations and short observations during the period from May 2010 to July 2011.

Empirical findings and generalizations of the results

Seven research questions were formulated based on the theoretical argumentations drawn together in the framework depicted in Figure 18. Considering the performance expectations from theoretical perspectives of corporate governance, the first research question was formulated to examine the influence of ownership structure on the efficiency of water companies *per se*. The remaining six research questions, answered as a result of the comparative case study, were set to find out how water companies under different ownership regimes were governed and how the different patterns of governance influenced their financial and non-financial performance. Research questions 2, 3 and 4 were targeted at defining distinct features of corporate governance mechanisms, while research question 5 on regulatory governance mechanisms influencing performance in the water companies. And finally, research question 6 concentrated on accountabilities for performance between the governance actors, while research question 7 aimed to describe the trade-offs reached between financial and non-financial performance in the water companies.

RQ1: Is there a significant difference in efficiency between water companies with public, private and mixed public-private ownership?

The analysis revealed that none of the given ownership forms (public, private, mixed) can be associated with a greater or lower efficiency levels across the sample. Hence, the results did not support the theoretical expectations (from property rights and public choice theories) of the existence of relatively less efficient behaviour in publicly owned companies. Moreover, the influence of ownership on efficiency was assessed within the established size categories (small, medium, large and very large), where the results again did not confirm

the views that private companies are unequivocally more efficient than publicly owned companies. However, the results indicated that on average small water companies are significantly less efficient than medium or large companies.

RQ2: What are the primary objectives of the different types of owners in the water companies?

The answer to this question outlined an important difference in the primary performance interest of the different types of owners in the water companies. Based on the analysis it can be stated that the private owners of the water companies tend to be primarily interested in financial performance, while public owners are rather interested in the achievement of non-financial objectives.

RQ3: What characteristics do the members of supervisory board and management board embody in the water companies?

The results of the analysis indicate that the board members of the water companies embody different knowledge and practical experience. It can be stated that the supervisory and management boards of the water companies with mixed public-private and public ownership included members that had relatively broad private sector management experience, a good knowledge of water industry specifics and/or an influence in local politics. Moreover, the company with mixed public-private ownership, through the representatives of its dominant shareholder, embodied unique international experience in water company management and governance. In the privately owned water company, as opposed to the other two case companies with mixed public-private and public ownership, the supervisory boards did not include individuals actively involved in local politics. Also, the board members of the private company had relatively narrower management experience and knowledge of the peculiarities of water services from relatively smaller local utility companies.

RQ4: What are the roles of the boards in influencing the performance of the water companies?

The study revealed that in the companies with mixed public-private and public ownership, where the supervisory board members embodied relatively broad knowledge and experience, the supervisory board executed control over management, approved performance targets (under proposals by the CEO) and co-opted influential stakeholders from the surrounding business environment to influence corporate performance. Moreover, in the fully publicly owned company the functional emphasis of the supervisory board was wider and its role even more significant in influencing corporate performance than in the company with mixed public-private ownership. Specifically, it was the

supervisory board that had appointed the CEO and set up an incentive scheme for their goal alignment. Furthermore, in the publicly owned water company, as opposed to the company with mixed public-private ownership, the supervisory board was actively involved in discussing and reviewing water prices, and their decisions and proposals were considered by the city government when officially establishing water prices. In the privately owned case company, the supervisory board was not a *de facto* corporate governance mechanism employed by the shareholders.

However, a distinct feature that influenced the use of the supervisory board as a formal control mechanism was the presence of strong trust between the key corporate governance actors – chairman of the supervisory board and the CEO – in all three water companies. Therefore, the contribution of the supervisory board meetings remained respectively smaller in controlling and directing the managers in pursuit of corporate performance targets.

RQ5: How does the setup and use of regulatory contracts and institutions influence the performance of the water companies?

The study provided support for the opinion that the private provision of water services under a weak regulatory arrangement can be risky and end-up in failure. Moreover, in the case of the private management of water services provision, strict contracts that clearly stipulated the rights (benefit) and the obligations (deliver) of the water companies made it possible to mitigate performance eroding regulatory conflicts. However, the study revealed that lax regulatory contracts would not necessarily lead to agency conflicts in the case of public ownership of the water company because the aim of using tight contracts was reached through the supervisory board by the local government as regulator.

It also appeared that the financial performance of the water companies was largely determined by the method of water price regulation, which in all three cases followed the idea of the rate-of-return approach without stipulated limits on returns. A principal difference between the price mechanisms used was that for the company with mixed public-private ownership, the price adjustments took place under a price formula that ensured an automatic increase in water tariffs dependent on inflation. For the two other companies, all changes in water tariffs were ultimately dependent on single decisions by the local governments. In the context of the privately owned water company, it appeared that under information asymmetry between the water company and its regulator (local government) evolving distrust and conflicts can lead to regulatory discretion in water price review, which can harm the water company's ability to cover its costs and make investments for service improvement.

RQ6: How do the accountabilities make it possible for the governance actors to achieve their objectives in the water company?

The analysis revealed that the given managerial accountabilities to the shareholders or their representatives on the supervisory boards of the case companies made it possible for the CEOs to create trust in their efforts and obtain freedom for managerial decision-making. The accountabilities made it possible to reduce information asymmetry, execute control over CEOs and direct them towards achieving corporate (financial) objectives. Moreover, the account-giving to the supervisory boards for financial results made it possible for the CEO to earn corporate profit-related bonuses motivating them to increase the efficiency of the companies.

The established political accountability chains indicated that realistic and clearly measurable non-financial performance objectives (indicators) from local strategic development plans, budgets and regulatory contracts need to be linked to allow the local governments as contractor (regulators) to direct the performance of water companies towards long-term objectives. A lack of political accountability could lead to political discretion in local government decision-making, which could harm the financial performance of the water company and the viability of the services provision.

Finally, social accountability and transparency could be viewed as a practical means for improving corporate image and trust in the eyes of the general public, which tends to be considered relatively more relevant in publicly listed companies. However, relatively high transparency means that the external stakeholders could respond to any available performance information, which could spur undesired performance influencing actions by them. Therefore, remaining relatively less transparent in terms of corporate financial and non-financial performance allowed the managers of the water companies to work 'undisturbed' in the interests of their principals (e.g. shareholders) on performance.

RQ7: What are the trade-offs between financial and non-financial performance in the water companies?

It appeared that in the case companies under the control of private owners, there was a biased trade-off between the financial and non-financial performance either towards one performance dimension or the other in comparison with the publicly owned company. Moreover, the biases in the performance of water services provision have given rise to legitimacy issues. Specifically, in the case of the company with mixed public-private ownership, the very strong financial performance caused some dissatisfaction among the citizens and politicians, which resulted in tightened and centrally applied economic regulations. In the case of the company with private ownership, however, the weak financial performance of the water company was part of a legitimacy issue when the city government was not willing to increase water prices.

To summarize, the results of the case study analysis made it possible to outline three different governance patterns – *rule-based via contracts, trust-based via the board* and *discretion-based without a contract and board* – to describe how the water companies, each with a different ownership structure, were governed and how the different patterns influenced financial and non-financial performance. With regard to performance, in each case there was a different trade-off between the financial and non-financial results influenced by the setup and use of governance mechanisms by the actors when pursuing their distinctive interests.

Based on the arguments given in the discussion of empirical findings, five propositions contributing to the theory were subsequently presented about how the ownership structures dependent on applied governance mechanisms can influence the performance of water services provision as follows:

> **Proposition 1:** Water services provision by a privately owned company without a clear *ex ante* written set of rules is likely to cause agency problems between the local government and the company, which can impede regulatory decision-making and consequently harm the viability of the water services provision.
>
> **Proposition 2:** In a publicly owned water company the board can fulfil the dual role of local government effectively, if distanced from party politics and staffed with business-oriented representatives from municipal council to balance financial and non-financial objectives regarding water services provision.
>
> **Proposition 3:** The management of a publicly owned water company by a member of a municipal council with professional know-how and profit rights in the company embodies the interests and potential to ensure the combination of good non-financial and financial performance in water services provision.
>
> **Proposition 4:** Trust reinforced by the management and board members of a publicly owned water company in the political domain, may enable the local government to avoid using mechanistic and relatively costly control instruments for ensuring the required financial and non-financial performance in water services provision.
>
> **Proposition 5**: Water services provision by a company with mixed ownership under private management constrained by a tight services contract provides a governance framework that can lead to a combination of good non-financial and relatively greater financial performance in water services provision.

All in all, the observed ownership structures had a different influence on the performance of the water companies, which depending on the governance mechanisms could be both negative and positive. Private management of a water company (with mixed public-private ownership) could lead to relatively greater performance, if the rights and obligations between the partners are clearly fixed by strict regulatory contracts. Public ownership, which is often considered to be old-fashioned and ineffective, could lead to good performance even without strong contractual arrangements when the water company is tied with the local government on a professional basis via the board.

Practical implications of the research

The empirical findings of this study suggest that policymakers, regulators and managers of water companies involved in water services provision should consider the setup and use of governance mechanisms in many situations more thoroughly in order to influence performance. The argument here is that the performance of water services provision can be directed more systematically based on enhancing knowledge about the features and consequences of using particular governance mechanisms. This makes it possible to be more effective in achieving the targeted financial and non-financial performance objectives. At a more detailed level, this study presents the following policy implications and recommendations to practitioners in water services provision.

Firstly, a practical governance question for local governments concerns the decisions they can make on private *versus* public production (privatisation) and/or potential mergers of water companies (cooperation) in order to lower costs and improve the efficiency of water service production. The results of the empirical study indicate that Estonian water companies exhibit relatively low efficiency and the companies with private sector participation are not significantly more efficient than the companies with full public ownership *per se*. Hence, mere privatisation itself is not the key to solving efficiency problems in the water sector. Moreover, since the general efficiency level is low in the Estonian water sector, the regulator(s) should consider applying price regulation methods that embody clear incentives for efficiency improvements in the water companies. However, the results of the efficiency analysis indicated that the efficiency of Estonian water companies increased with size. Therefore, it is suggested that the establishment of larger water companies through mergers or aggregation agreements between small water companies should be considered as an option by local governments in order to benefit from scale effects. However, it will require a separate examination to conclude exactly which water companies and from what kind of scale economies – capital equipment or ordinary business operations – would be most beneficial in Estonia.

Secondly, the study suggests that if local governments decide in favour of the privatisation of their water companies, there should be a clear *ex ante* written set of rules regarding water tariffs and the quality of services in

regulatory contracts between the local government and the company in order to avoid performance eroding agency conflicts and to direct the company towards the desired performance levels. Moreover, accountabilities should be agreed upon between the local government as regulator and its private partner at the beginning of the cooperation in order to avoid distrust and mitigate conflicts from possible opportunistic behaviour from one or both parties. Otherwise, divergent interpretations of unclear rules (objectives) in regulatory contracts and a lack of control options for the regulator can harm governance relationships with the water company and result in performance deteriorating discretion in regulatory decision-making.

Thirdly, the study suggests that in publicly owned water companies, the supervisory board can fulfil the dual role of local governments effectively if distanced from party politics and staffed with business-oriented representatives from the municipal council to balance economic and social objectives regarding water services provision. Hence, the local government appointing the members of the supervisory board should carefully consider their professional knowledge, business experience and political activism in the local community to ensure that both the business and social views are represented in the board to ensure a balanced performance. By doing that, the major counterargument for public ownership of public services companies – corporate performance eroding political interference – can be mitigated. However, it appeared that Estonian local governments have not compiled written ownership strategies on companies under their ownership, which would enhance clarity and transparency regarding the interests of local governments as shareholders in public services companies. Clear ownership strategies, such as used in the Nordic countries, e.g. in Sweden or Norway (The state as…2012, The government's ownership…2012), can contribute to mitigate potential conflicts of interest stemming from the dual role of (local) governments in publicly owned public services companies.

Fourth, the study suggests that when setting up and using governance mechanisms one should consider how these contribute to maintaining and building trust between the key governance actors in and around the water companies. This is because, as the case studies revealed, the established governance systems did work until there was trust, and stopped functioning properly when there was no trust. Moreover, discussions and contacts between the governance actors beyond official reporting deadlines should be considered necessary in order to reinforce trust and facilitate decision-making. However, trust reinforced beyond the official governance routines can also replace *ex ante* tight mechanistic and relatively costly control instruments ensuring the necessary financial and non-financial performance in water services provision.

Finally, the study suggests that policymakers, regulators and managers of water companies involved in water services provision, should focus on achieving both a good financial and non-financial performance when setting up and using governance mechanisms in water services. Moreover, it becomes important to reach a balanced trade-off between these two dimensions of per-

formance in water companies, since biased trade-offs between financial and non-financial performance towards one or the other direction can give rise to legitimacy issues.

Limitations and suggestions for future research

This section discusses the limitations of the conducted study and explores avenues for future research in the area of governance-performance relationships in water services. The limitations are mainly related to the chosen research approach and case selection, while further research suggestions concern expanding and specifying the established framework for analyzing the influence of governance on the performance of a public services company.

Firstly, in terms of the quantitative study, as noted before, the selection of the input-output variables included in the DEA model for efficiency assessment was a complicated exercise due to the limited set of non-financial input data (e.g. quantity of used capital) available. Therefore, operational expenses measured in euros and including the amount of annual depreciation were considered a reasonable proxy for the quantity of inputs used for water services production in the sample companies. It must be admitted that even though the routine for detecting outliers was applied and the sample consisted of companies with similar production cycles specialized in water services provision, there still remains the potential that for some of the sample companies the amount of operational expenses taken from their annual income statements includes expenses other than those related to water services provision. This can partly distort the value of efficiency scores calculated for the water companies.

Secondly, the multi-case study was exploratory in nature, and therefore, inherent limitations should be recognised. The resulting governance-performance patterns in water services can be considered as preliminary patterns mapped based on a small number of case studies. Hence, additional studies need to be conducted in order to validate the findings in a larger sample of water companies. However, the small number of water companies included in the case study was justified by the aim of providing in-depth insights into how governance arrangements can influence performance in water companies. Moreover, the established framework for analyzing the influence of governance on the performance of water companies (Figure 18) does not allow us to measure the influence of governance on performance in water services, but rather helps us understand the complexity of the relationship between them by simplifying and systematizing the issues in this domain. It should be also noted that the established research framework focusing on the governance-performance relationship does not involve other possible influencers of performance from the operational environment of the water companies.

Thirdly, another limitation of the case study, as also pointed out earlier, is that governance-performance causality is complex and performance itself can

influence the governance arrangements. Moreover, the literature suggests a number of alternative hypothetical causalities between public governance forms and performance (e.g. they are unrelated). The issue of causality is of high importance in corporate governance-performance research because without a strong causal link, there is no basis for suggesting that governance influences performance, and not vice versa. However, in the corporate governance literature to date, there is no consensus on the nature of the causality in the governance-performance relationship, leaving this issue open for further research.

The explicit focus of this study relied on water companies. It must be acknowledged that in the case of other (non-utility) public services companies, the applicable governance mechanisms can be somewhat different; however, the proposed research framework can be used as a starting point for further research on the influence of governance on performance in other public services sectors. Nevertheless, this governance-performance framework assumes that (local) governments have externalized the provision of public services to companies, which have to consider the achievement of both financial and non-financial performance objectives.

Moreover, further studies could focus on enhancing our understanding of combining various (formal and informal) governance mechanisms to direct and control the performance of regulated utility companies (e.g. water and electricity companies) in more detail. The comparative perspective could be extended through other Baltic states as well as neighbouring Nordic countries. Last but not least, a longer horizon and broader view of the performance of water services provision should be provided in future research. Instead of particular non-financial and financial performance measures from previous periods, the long-term viability of water utilities and ability of local governments to ensure access to affordable good quality water services in the years ahead need to be assessed considering the differences in the established governance regimes.

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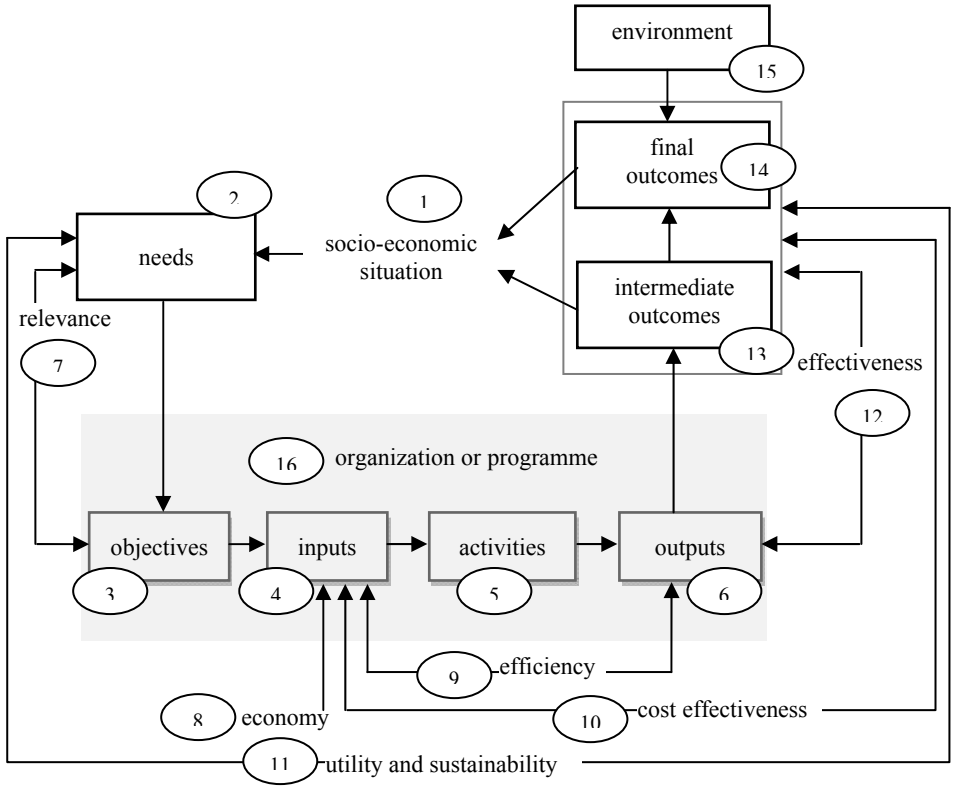
APPENDICES

Appendix 1. The production model of performance

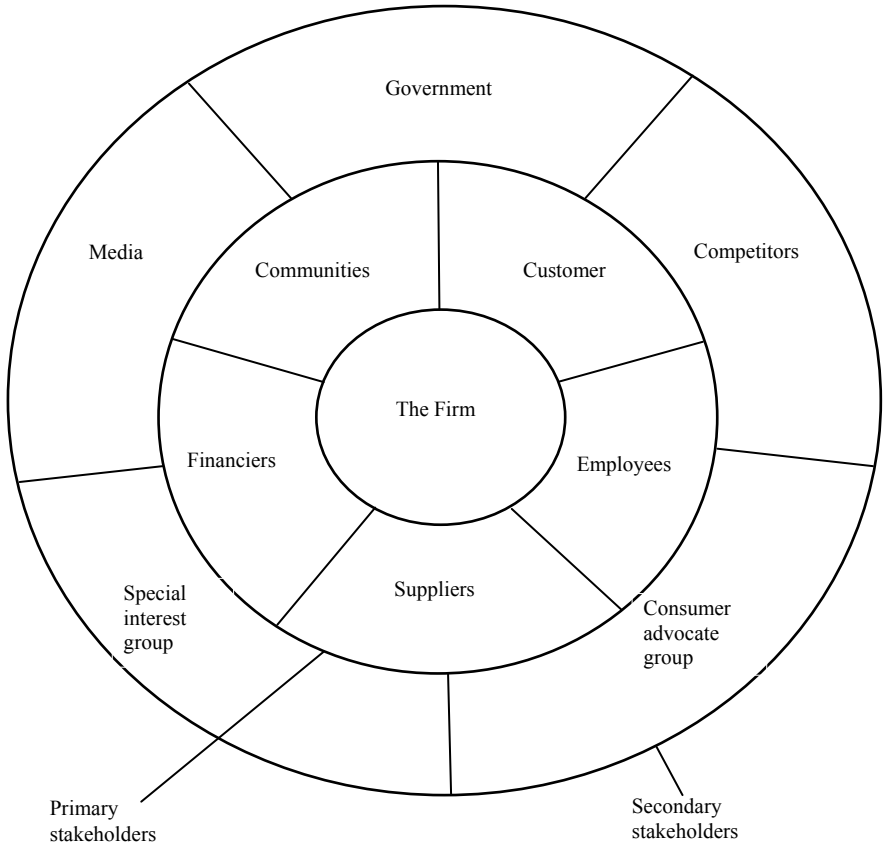


Source: Bouckaert and Halligan (2008)

Socio-economic situation (1) as the starting point induces a **need** (2) for action by the public sector (Bouckaert and Halligan 2008). Through the political system priorities are set. The priorities, following the model, are translated into **objectives** (3) of the organization or programme. The confrontation of the objectives with the needs allows the assessing of the **relevance** (7) of the pursued policies (Van Dooren et al. 2010).

Inputs (4) are allocated to organizations and programmes to conduct **activities** (5) that yield **outputs** (6) – products or services as result of the production process. **Economy** (8) is the ratio of a monetary input over another input. The ratio of the input over the outputs is **efficiency** (9) (Van Dooren et al. 2010). **Outcomes** can be intermediate (usually in the short term) (13) or final (usually in the long term) (14). The outcomes, particularly the final outcomes, are influenced by the **environment** (15). The ratio of output over effect is the **effectiveness** (12), while the ratio of the input over the effects is the **cost-effectiveness** (10). The confrontation of needs and outcomes allows assessment of the **sustainability and utility** (11) of the organization or the programme (ibid.).

Appendix 2. Groups of primary and secondary stakeholders



Source: Freeman et al. (2007)

Stakeholders are defined **narrowly** (i.e. the inner circle) and **broadly** (i.e. in the outer ring) illustrating the idea of primary and secondary stakeholders (ibid.).

Appendix 3. List of collected documents for the case study

	Documents on the water company	Documents on the city government
Case A	Agreement on initial public offering of shares Amendments to the services agreement 2002, 2005, 2007, 2009 Annual reports 2000–2010 Annual reports of the dominant shareholder Articles of association B-cards in the business registry Corporate development plan Corporate governance (recommendations) reports CVs (members of the boards) Environmental reports 2004–2010 Fulfilment of the 2001 services agreement (2004) Investor cash-flows from dividends Investment program Management reports 2000–2010 Offering circular – international offering of initial shares 2005 Organizational chart Quality certificates Results of operations – quarterly reports 2005–2010 Roadshows and quarterly presentations for investors 2008–2011 Services agreement 2001 Stock announcements 2005–2010 Technical requirements Water quality parameters Yearbooks 2004–2010 Other (external) documents (articles in media, stock analyses, water quality reports from regulators, statistics from associations, etc.)	Amendments to the services agreement 2002, 2005, 2007, 2009 Annual budgets 2000–2010 Annual reports 2003–2010 Articles of association of the supervisory foundation over water companies Budget strategies 2007–2010, 2008–2011, 2009–2012 City development plan 2006–2021 City strategy 2025 Coalition agreements 2002, 2009 CVs (politicians, managers and senior specialists) Decrees of the city council on: – privatisation of the water company – establishment of the supervisory foundation over water companies – development of water infrastructure – preparation of city development plans Decrees of the city government on: – contract (re-)negotiations with the water company – regulation and establishment of water prices – rules of connecting to public water supply and sewerage network – on appointment of its representatives in supervisory boards – financing of the supervisory foundation over water companies Job descriptions of the public servants in/under city government Minutes of city government sessions Opinion on the 2001 privatisation of water company by the city council Organizational chart, profiles of the city departments and their managers Public water supply and sewerage system development plan 2004–2015, 2009–2020 Review on the fulfilment of 2001 services agreement (2004) Services agreement 2001 Other (external) documents (articles in media etc)

Appendix 3. Continuation

Case B	Annual reports 2000–2010 Annual reports of the daughter company Articles of association Articles of association of the daughter company B-cards in the business registry Corporate objectives CVs (members of the board and the CEO) Form of the annual budget Management reports 2000–2010 Services agreement Summaries of the investment projects Work reports of the board Other (external) documents (articles in media, water quality reports from regulators, statistics from associations)	Annual budgets 2002–2010 Annual reports 2003–2010 City development plan 2007–2013 and related annual action plans City strategy 2030 CVs (politicians, managers and senior specialists) Decrees of the city government on: – regulation and establishment of water prices – rules of connecting to public water supply and sewerage network – appointment of its representatives in supervisory boards Job descriptions of the public servants in/under city government Minutes of city government and city council sessions Organizational chart, profiles of the city departments Public water supply and sewerage system development plan 2000–2012, 2007–2020 Reports on fulfilment of the public water supply development plans Services agreement Other (external) documents (articles in media etc)

Appendix 3. Continuation

Case C	Agreement on water prices (2009) Analysis of the water prices – expert report (2009) Annual reports 2000–2010 Annual reports of the related companies Articles of association Articles of association of the related companies B-cards in the business registry Court materials 2008–2009 Decisions on the privatisation of the construction material company Management reports 2000–2010 Minutes of price negotiations with city government Rental agreement (2007) Services agreement (draft) Other (external) documents (articles in media, water quality reports from regulators, statistics from associations)	Agreement on water prices (2009) Analysis of the water prices – expert report (2009) Annual budgets 2002–2010 Annual reports 2003–2010 Court materials 2008–2009 CV (mayor) Decrees of the city government on: – regulation and establishment of water prices – rules of connecting to public water supply and sewerage network General planning of the city 2001 Minutes of city government and city council sessions Minutes of price negotiations with water company Organizational chart, profiles of the city departments Public water supply and sewerage system development plan 2009–2025 Public water supply and sewerage investments 1999–2009 Public water supply and sewerage investment plan 2007–2019 Rental agreement (2007) Rules on connecting to public water supply and sewerage network Services agreement (draft) Other (external) documents (articles in media etc)

Appendix 4. Interview guide for the case study

Respondent: the CEO of company B

I Planning – setting objectives

1. For introduction, what are the key objectives for the water company today?

2. What are the main strategic plans the company follows in organizing water services provision?

3. How are these strategic plans made?
   a. Who participate in the planning process? What are the participants' roles in this process?
   b. What data is used as input for setting objectives? Where is the data gathered from?
   c. How are the objectives prioritized?

4. How do you establish links (create coherence) between the objectives of city government and water company in their different plans?
   a. How does the water company inform the city government about changes in its corporate objectives and targets?
   b. Does the supervisory board (that consists of politicians) discuss the main strategic plans related to water services provision?

Budgeting and financing

5. How is the (annual) corporate budget made?
   a. Who participate in the budgeting process? What are the participants' roles?
   b. What budgeting methods are used?
   c. How do you link the (non-financial) performance objectives from the previously discussed plans with budget resources?
   d. What information and how is changed between the city government and the water company during the budget process?

6. How do you budget corporate revenues, this means, consider possible changes in water prices?
   a. Does the regulator (city government) provide its expectations regarding water prices to the management during the budgeting process?
   b. If yes, how and when?

7. How are profit targets formulated in the budgeting process?
   a. How and when does the shareholder (city government) provide its profit expectations to the management during the budgeting process?

8. Have all members of the supervisory board voted for the budgets proposed by the management?
   a. If no, what has caused different opinions?

9. What type of cash-flows has been established between the city government and the water company?
   a. Does the city government pay any subsidies to the water company?
   b. What will follow, if the city government or the water company does not have enough funds to fulfil its contractual obligation in water services?

10. What are the roles of the water company and the city government in applying for the EU grants and organising necessary self-financing for investments?

Corporate boards

11. What is functional emphasis of the supervisory board?
   a. What are the main roles of the board?

12. What are main characteristics of members of both the supervisory and the management board?
   a. What interests and qualities do the members embody?
   b. Under what criteria and by who are the members of the boads selected?

13. How is the work of the supervisory board organized?
   a. How often do the members get together?
   b. How are the board meeting organized?
   c. What is the role of chairman?
   d. What orders and guidelines do the board members get from the shareholder (city government)?

14. How has the participation of politicians in the boards influenced the decisions made by the boards?
   a. Has it enhanced or hindered the financial and non-financial performance of the water company? How?

15. Is remuneration of the members of supervisory board and management board (CEO) depending on corporate performance?
   a. How, if yes?

Regulatory governance

16. How is the relationship between the water company as service provider and the city government as contractor regulated?
   a. What conditions (obligations and rights) are stipulated in the services agreements?
   b. How often and when do the parties review the conditions of the agreements?
   c. Who usually participate in the (re-)negotiations of the agreements?

17. How are the dual roles of city government (as contractor/guarantor and owner) distinguished in the water company?

18. What price regulation method and how is applied to the water company?
    a. What costs and to what degree are included in the tariffs?
    b. How does the water company motivate its proposals for price adjustment?

19. How often and when do you review water prices?

20. In the city government, how and who analysis the requests for price adjustment?

21. What are the strengths and potential weaknesses of present regulatory practice between the city government and the water company?
    a. What have been the major disagreements between the parties related to? What has caused them?

Accountability

22. To whom and for what performance are the management board and supervisory board accountable in water services?
    a. How often and in what format is the account-giving (reporting) organized?
    b. Where and by whom are results discussed?
    c. What are the consequences of account-giving?

23. To whom and for what performance is the city government/department accountable in water services?
    a. How often and in what format is the account-giving (reporting) organized?
    b. Where and by whom are results discussed?
    c. What are the consequences of account-giving?

24. What are the key performance indicators you concentrate mostly in your work?

Performance

25. How has financial and non-financial performance changed during the observed years?

26. Why did you decide to acquire a consultancy firm? How did this deal influence the performance of the water company?

27. What have been the critical (success) factors influencing the financial and non-financial performance of the water company?

Appendix 5. Sample questionnaire for the case study: the importance of set performance objectives

Respondent: the CEO of company A/deputy mayor/senior specialist in the city government

Please, evaluate the importance of following objectives for [*name of the case organization*] on a 5-point scale (1– not at all important; 2 – fairly unimportant; 3 – neither important nor unimportant; 4 – fairly important; 5 – very important).

Level of importance

1. All households connected to public water and sewerage network by___	1	2	3	4	5
2. The part of streets with storm water network: _% by 20XX	1	2	3	4	5
3. Drinking water quality meets required standards _% by 20XX	1	2	3	4	5
4. To keep the leakage level at _% in the city	1	2	3	4	5
5. To compensate connection costs to those who will join the public sewerage network	1	2	3	4	5
6. To keep households' costs on water services below __% of their net income	1	2	3	4	5
7. To finish water and sewerage network construction in areas where missing by the end of 20XX	1	2	3	4	5
8. To reduce the content of organic compounds in water delivered to the network by _%	1	2	3	4	5
9. To improve the water treatment system so that it can treat additional _% of water volume given to the network	1	2	3	4	5
10. To ensure that all districts in the city can be supplied with water from two alternative water sources	1	2	3	4	5
11. To renew existing sewerage network at least by _ km a year	1	2	3	4	5
12. To ensure that all companies could get connection to public sewerage network	1	2	3	4	5
13. To reduce the number of breaks and time of reaction to liquidate the breaks in the city	1	2	3	4	5

14. To ensure that wastewater is treated on required level	1	2	3	4	5
15. There is a high level customers service provided to customers of the water company	1	2	3	4	5
16. To increase the efficiency of water company	1	2	3	4	5
17. To ensure to the required rate of return on investments to shareholders	1	2	3	4	5
18. To increase the value of company (shares)	1	2	3	4	5
19. To guarantee annual dividends to shareholders	1	2	3	4	5
20. To reduce the pollution of reservoirs while investing into storm water cleaning systems	1	2	3	4	5
21. To get increases in water price compensated to low income population of the city	1	2	3	4	5
22. To avoid situations where sewerage systems cause overflows of living and business areas	1	2	3	4	5
23. To expand operations of the company in neighbouring municipalities	1	2	3	4	5
24. To reduce the number of customer complaints from today's level	1	2	3	4	5

Appendix 6. Full list of efficiency scores of the DEA analysis

Company	VRS efficiency (bias-corrected)			CRS efficiency (bias-corrected)		
	2005	2006	2007	2005	2006	2007
1	0.3368	0.3891	0.3313	0.2861	0.3373	0.3098
2	0.4646	0.3468	0.3916	0.3613	0.3211	0.3304
3	0.5983	0.5705	0.5458	0.2862	0.3349	0.3152
4	0.6337	0.4627	0.5834	0.6277	0.4642	0.4337
5	0.6637	0.7130	0.9043	0.6341	0.7120	0.8973
6	0.7529	0.7749	0.8679	0.5825	0.7477	0.7082
7	0.5201	0.3517	0.5351	0.4406	0.3490	0.3984
8	0.5714	0.6221	0.6647	0.3810	0.4015	0.4439
9	0.1621	0.1310	0.2209	0.1558	0.1275	0.1720
10	0.4013	0.4904	0.4590	0.3766	0.4622	0.4568
11	0.2601	0.2312	0.2208	0.1682	0.1804	0.1880
12	0.4735	0.4910	0.3432	0.4723	0.4915	0.3251
13	0.4285	0.4654	0.5596	0.3854	0.4069	0.5385
14	0.8832	0.7771	0.8144	0.6759	0.7460	0.6794
15	0.4129	0.4649	0.5630	0.3723	0.4546	0.5411
16	0.8119	0.7910	0.7843	0.8464	0.8173	0.7904
17	0.7491	0.6014	0.6926	0.6973	0.5878	0.6665
18	0.7799	0.6467	0.7013	0.7515	0.6415	0.5927
19	0.6145	0.6201	0.8248	0.6043	0.6240	0.8023
20	0.7656	0.7746	0.8792	0.7766	0.8068	0.7431
21	0.5942	0.3258	0.5470	0.4778	0.2989	0.4880
22	0.2995	0.2758	–	0.3022	0.2759	–
23	0.6296	0.5919	0.5676	0.3385	0.5866	0.5573
24	0.6503	0.6311	0.7030	0.6335	0.6188	0.6819
25	0.7685	0.6916	0.8249	0.7468	0.6667	0.8091
26	0.8446	0.8784	0.7351	0.7842	0.7746	0.5921
27	0.7518	0.7424	0.7528	0.7204	0.7202	0.7113
28	0.4468	0.3914	0.5351	0.4012	0.3517	0.5117
29	0.6748	0.5581	0.5876	0.6824	0.5727	0.6019
30	0.5012	0.6673	0.7696	0.4320	0.6514	0.5566
31	0.8592	0.8937	0.6606	0.5592	0.8242	0.4692
32	0.4431	0.5942	0.4830	0.4329	0.5836	0.4754
33	0.6663	0.9165	0.8512	0.6636	0.9074	0.8443
34	0.7567	0.7698	–	0.7258	0.7950	–
35	0.8093	0.6250	0.6116	0.5694	0.5372	0.5598
36	0.6323	0.4127	0.6935	0.6169	0.2390	0.3338
37	0.7984	0.7980	0.9013	0.7684	0.7930	0.8767
38	0.6084	0.8039	0.5597	0.4899	0.7757	0.4845
39	–	0.5902	0.8071		0.3665	0.4039
40	–	–	0.3892			0.2316
41	–	–	0.7760			0.6311
42	–	–	0.2242			0.1972
43	–	–	0.3283			0.2241

Source: author's calculations on the basis of research sample (with FEAR 1.2. software package)

Appendix 7. Descriptive characteristics of the mean net profit margin in water companies

	Ownership	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Net profit margin	Private ownership	28	.046325	.0677390	.0128015	.020059	.072591	–.0912	.2113
	Public ownership	81	.025230	.2025134	.0225015	–.019550	.070009	–1.1007	.6011
	Mixed ownership	9	.143533	.1744242	.0581414	.009459	.277608	–.0843	.4182
	Total	118	.039258	.1793486	.0165104	.006561	.071956	–1.1007	.6011

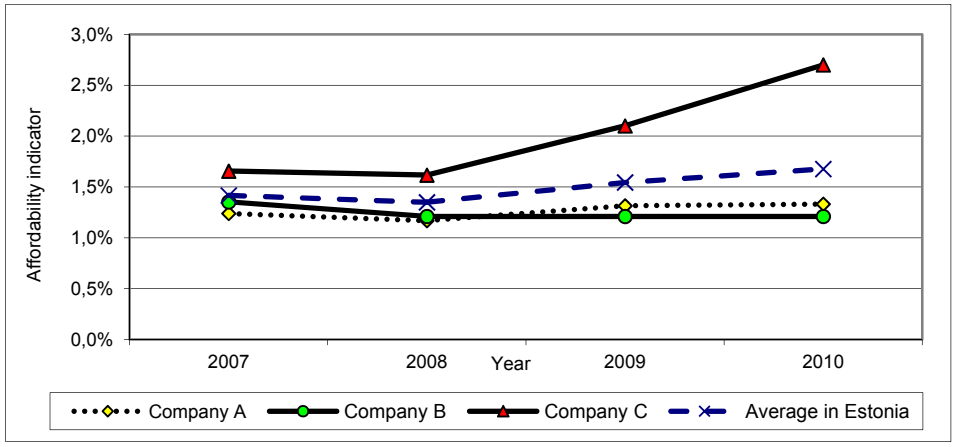
	Size	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Net profit margin	Small	44	–.008393	.1451991	.0218896	–.052538	.035751	–.6420	.1975
	Medium	41	.085017	.1446457	.0225899	.039361	.130673	–.1693	.6011
	Large	30	.014850	.2278887	.0416066	–.070245	.099945	–1.1007	.3256
	Very large	3	.356867	.0618053	.0356833	.203334	.510400	.2946	.4182
	Total	118	.039258	.1793486	.0165104	.006561	.071956	–1.1007	.6011

Appendix 7. Continuation

	Size-ownership	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Net profit margin	Sml_Pub	28	–.035450	.1719168	.0324892	–.102112	.031212	–.6420	.1938
	Sml_Priv	16	.038956	.0589882	.0147471	.007524	.070389	–.0600	.1975
	Med_Pub	26	.101238	.1701809	.0333752	.032501	.169976	–.1693	.6011
	Med_Priv	9	.070256	.0860180	.0286727	.004136	.136375	–.0912	.2113
	Med_Mix	6	.036867	.0786773	.0321199	–.045700	.119433	–.0843	.1525
	Lrg_Pub	27	.014963	.2404121	.0462673	–.080141	.110067	–1.1007	.3256
	Lrg_Priv	3	.013833	.0407088	.0235032	–.087293	.114960	–.0218	.0582
	Very_Mix	3	.356867	.0618053	.0356833	.203334	.510400	.2946	.4182
	Total	118	.039258	.1793486	.0165104	.006561	.071956	–1.1007	.6011

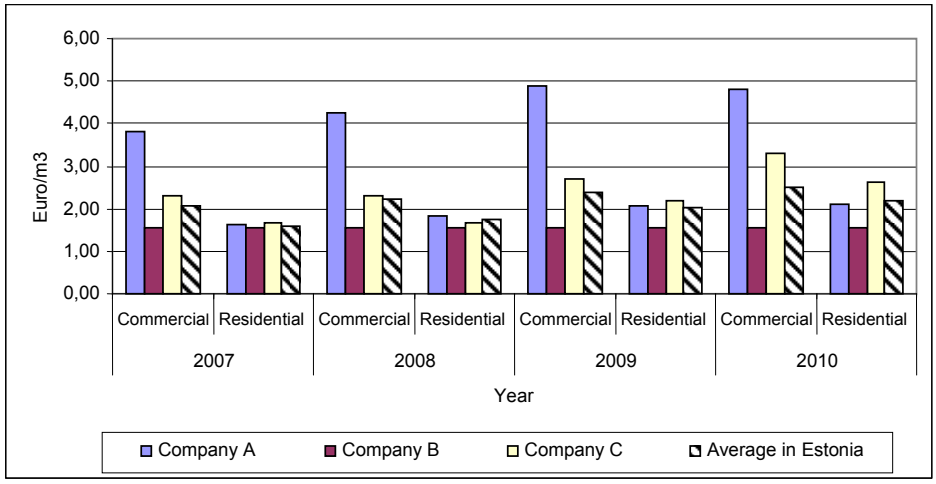
Note: abbreviations Sml=small, Med=medium, Lrg=large, Very_Lrg=Very large, Pub=publicly owned, Priv=privately owned, Mix=mixed ownership.
Source: compiled by the author (with data analysis and statistical software SPSS)

Appendix 8. Water services affordability for households in the case study



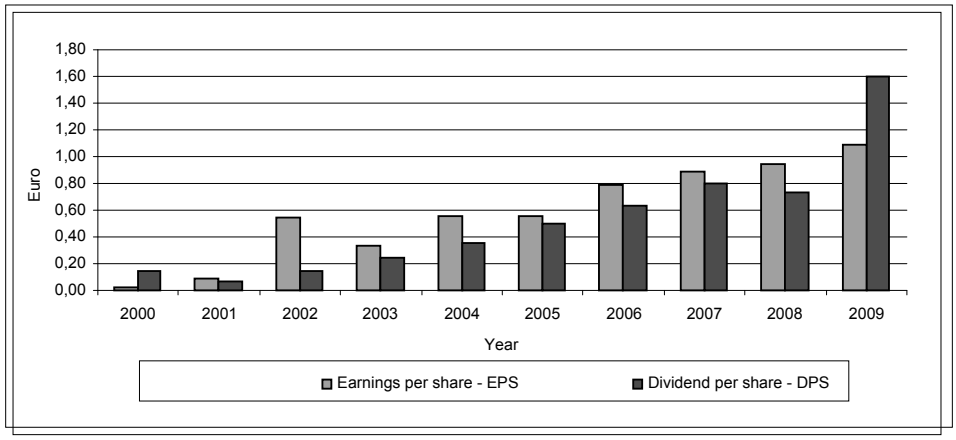
Source: compiled by the author based on data from websites of the Estonian Water Works Association, Statistics Estonia and case companies

Appendix 9. Differences in commercial and residential water prices of case companies



Note: all prices with value added tax (VAT) included.
Source: compiled by the author based on data from websites of the Estonian Water Works Association and case companies

Appendix 10. Earnings and dividends per share in company A



Source: compiled by the author based on data from annual reports

Appendix 11. Cash-flows related to company A and its shareholders 2001–2010 (million euros)

	City government	**Dominant shareholder**	**Company A**
Privatisation – share capital increase (2001)	–	–44.0	44.0
Privatisation – payment to city budget (2001)	41.1	–41.1	–
Reduction of share capital (2002)	30.1	30.6	–60.7
IPO of shares (2005)	26.5	26.9	–1.7
Dividends (2001–2010)	46.8	47.6	–120.0
Connection fee & network extension (2001–2010)	–69.6	–	69.6
Storm water treatment (2001–2010)	–31.9	–	31.9
Fire hydrants (2001–2010)	–1.7	–	1.7
Total	41	20	–35

Source: compiled by the author (adjusted from Vinnari and Hukka 2007)

Appendix 12. Inclusion of depreciation costs into the water prices in company C (euros)

Group of tangible fixed assets	Annual depreciation on replacement value	Depreciation cost included in water prices	Rate of depreciation cost recovery
Water infrastructure owned by company C	57 097	8 181	14.3%
Wastewater infrastructure owned by company C	52 013	13 293	25.5%
Water infrastructure owned by the city government	46 152	3 835	8.3%
Wastewater infrastructure owned by the city government	57 747	19 173	33.2%
Total	213 010	44 482	20.9%

Note: figures in the second column are the estimates by the consultant in 2008 prices; figures in the third column from an explanatory memorandum to the decision of the city government on the price increase from April 2011.
Source: compiled by the author

The total amount of capital expenses (44 482 euro) incorporated into water prices, as presented in the third column, consists of the rental payments (i.e. 3835 + 19173 = 23 008 euro) from company C to the city government for the use of infrastructure owned by the city government and depreciation costs (i.e. 8181 + 13293 = 21474 euro) on assets in company C. The last column shows that the water prices agreed after the court disputes and negotiations by the end of 2009 are expected to recover only a relatively small part (approx. 21%) of the capital costs needed for sustainable infrastructure management and water services production in the city.

SUMMARY IN ESTONIAN

Ettevõtte valitsemise ja tulemuslikkuse vaheline seos veeteenuste osutamisel Eesti kohalikes omavalitsustes

Töö aktuaalsus

Avalikus sektoris läbiviidud reformide tulemusel korraldatakse avalike teenuste osutamist erinevalt. Kui traditsiooniliselt on avalikke teenuseid pakutud otseselt avaliku sektori asutuste poolt, siis järk-järgult on avalike teenuste osutamine muutunud killustatumaks ja lepingulistel suhetel põhinevaks. Arusaam, et riik või kohalik omavalitsus peab tingimata ise tegelema avalike teenuste osutamisega elanikele, on muutunud. Osborne'i ja Gaebleri (1992) poolt esitatud põhimõte „tüürida, mitte sõuda" kirjeldab valitsusasutuste koordinatsiooni- ja kontrollifunktsiooni avalike teenuste osutamise korraldamisel, mitte vajadust olla tingimata otseseks teenuse osutajaks. Valitsuse osalusega ettevõtete, avaliku ja erasektori koostöö ehk averuse[62] (ingl. *public-private partnership*), lepingulise delegeerimise (*contracting out*) või erafirmade kasutamine avalike teenuste osutamisel on levinud praktika, milles valitsused on sageli näinud lahendust avaliku sektori kulutuste kasvuga seonduvatele väljakutsetele (Pollitt et al. 2001, Doherty ja Horne 2002, Torres ja Pina 2002, Dexia Crediop, 2004, Reichard 2007, Grossi 2007). Selle tulemusena on avaliku ja erasektori vaheliste piiride eristamine muutunud keerukamaks ning valitsuse roll poliitikate teostamisel teisenenud (Kjaer 2004, Newman 2005). Need muutused avalikus sektoris seostuvad tihedalt aruteludega avalike teenuste osutamise tulemuslikkuse üle (Hartley ja Skelcher 2008, Skelcher 2008, Osborne 2010) ning annavad alust küsimusele, kuidas on omavahel seotud valitsemine (*governance*) ja tulemuslikkus (*performance*). Van Dooren et al. (2010) väitel on avaliku sektori valitsemise reformid demokraatlikes Lääne riikides algatatud just tulemuslikkuse suurendamise nimel.

Rahvusvaheliselt tõusis avaliku sektori tulemuslikkuse teema esile 1990ndatel (Hood 1991, Pollitt ja Summa 1997, Talbot 1999) ning on püsinud seal kesksel kohal tänaseni (Bouckaert ja Halligan 2008). Veelgi enam, tulemuslikkuse mõõtmine avaliku sektori organisatsioonides on muutunud üha intensiivsemaks hõlmates peaaegu kõiki avalikke teenuseid (ibid.) ning võib eeldada, et avaliku sektori tulemuslikkuse suurendamise vajadus jääb aktuaalseks ka tulevikus. Eeskätt annab selleks eelduseks alust ülemaailmsest majandussurutisest tingitud surve valitsussektori eelarvetele, mis sunnib valitsusi tõstma oma piiratud ressursside kasutamise tõhusust (*efficiency*) ja korrigeerima osutatavaid avalikke teenuseid (Levine 1978, Pandey 2010). Samas elanike

[62] Sõna „averus" tunnustati kui ühte võitjat 2010. aasta augustis Vabariigi Presidendi väljakuulutatud sõnavõistlusel.

ootused ja nõudmised avalike teenuste kvaliteedi osas pigem kasvavad kui kahanevad, mis tõstab teenuste standardeid, millest lähtuvalt avalikkus ja meedia avalike teenuste osutamise tulemuslikkust hindab (Hartley ja Skelcher 2008). Seega, vajadus pakkuda kvaliteetsemaid avalikke teenuseid etteantud eelarve tingimustes jätkuvalt kasvab (Van Dooren et al. 2010). Seda arvestades panustab käesolev ettevõtte valitsemise ja tulemuslikkuse vaheliste seoste uurimisele keskenduv doktoritöö uurimisvaldkonda, mis eeldatavalt kujuneb aktuaalseks ja oluliseks avalike teenuste jätkusuutlikkuse tagamise seisukohalt.

Senised teadmised sellest, kuidas avalikke teenuseid osutama volitatud ettevõtte valitsemine (*corporate governance*) tegelikult mõjutab selle ettevõtte poolt osutatavate teenuste tulemuslikkust, on kasinad ja killustunud, sest erinevalt erasektoris nimetatud valdkonnas rohkelt teostatud uuringutest on neid seoseid avaliku sektori kontekstis uuritud vähe (Hill ja Lynn 2005, Skelcher 2008). Veelgi enam, selle valdkonna empiirilistes uuringutes kontrollitakse peamiselt seoseid teatud lihtsasti mõõdetavate ettevõtte valitsemisega seotud näitajate (nt. ettevõtte nõukogu liikmete arv) ja finantstulemuste vahel kvantitatiivseid uurimismeetodeid kasutades, jättes aga kõrvale küsimuse otsustusprotsessides osalevate institutsioonide ja isikute vahelistest suhetest (Heracleous 2001, Edwards ja Clough 2005). Nii ei võimalda sellised lähenemised luua praktilist arusaamist, kuidas toimub tulemuslikkuse kujundamine. Seepärast, kasutades terviklikumat lähenemisviisi on käesoleva doktoritöö eesmärgiks luua põhjalikumat arusaamist sellest, kuidas kohalikud omavalitsused kujundavad ja kasutavad erinevaid valitsemise mehhanisme (*governance mechanisms*) avalike teenuste osutamisel ja kuidas erinevad valitsemise mustrid mõjutavad rahalist (*financial*) ja mitterahalist (*non-financial*) tulemuslikkust avalike teenuste osutamisel. Käesolev doktoritöö arendab valitsemise ja tulemuslikkuse vaheliste seoste alast diskussiooni, täites antud valdkonna kirjanduses olevat tühimikku Eesti veesektoris teostatud uuringute kaudu. Võttes arvesse veeteenuste osutamisega seonduvaid erinevaid ja sageli vastuolulisi huvisid, võimaldab veesektori näide luua üldisemat arusaamist avaliku sektori valitsemise ja tulemuslikkuse seoste keerukusest. Veeteenused on eluliselt tähtsad nii elanike tervise ja looduskeskkonna säilitamise kui ka majandusarengu seisukohast. Lisaks on vee-ettevõtete puhul majanduslikust seisukohast tegemist loomulike monopolidega (Parker 1999, Van Dijk 2008, Berg ja Marques 2011). Jättes praktikas arvestamata need erinevad veeteenustega seonduvad aspektid ja loomata sobivat valitsemise raamistikku (koordineerimise ja kontrollisüsteemi), võivad veeteenuste tulemuslikkuse suurendamisele suunatud algatused (nt. erastamine) olla vähetulemuslikud või lõppeda läbikukkumisega, nagu on juhtunud mitmel pool maailmas (Hall et al. 2004, Casarin et al. 2007, Vinnari ja Hukka 2007).

Uurimuse eesmärk ja ülesanded

Käesoleva doktoritöö eesmärgiks on luua põhjalikum arusaamine sellest, kuidas ettevõtte valitsemise mehhanismide (*corporate governance mechanisms*) ülesehitus ja kasutamine mõjutavad veeteenuste osutamise rahalist ja mitterahalist tulemuslikkust Eesti kohalikes omavalitsustes. Doktoritöö arendab teaduslikku diskussiooni avaliku sektori võimuorganite muutuvast rollist avalike teenuste osutamisel ja valitsemise mehhanismide kujundamisest, et mõjutada avalike teenuste osutamise tulemuslikkust. Regulatiivse valitsemise (*regulatory governance*) kontekstis keskendub doktoritöö üksikasjalikumalt vee-ettevõtete ja kohalike omavalitsuste vastastikusele koostoimele ning sellele, kuidas osapooled saavutavad sageli erinevaid eesmärke. See teadmine aitab poliitikate kujundajaid, regulaatoreid ja teisi osapooli strateegiate arendamisel ja võimaluste leidmisel, et parandada veeteenuste ja teiste sarnaste avalike teenuste osutamise tulemuslikkust.

Eesmärgi saavutamiseks püstitatakse järgnevad uurimisülesanded:

1) uurida seoseid töös kasutatavate peamiste kontseptsioonide (s.o. ettevõtte valitsemine, vastutavus ja tulemuslikkus) vahel ja tuua välja ettevõtte valitsemise teoreetilistest lähenemistest tulenevad ootused tulemuslikkuse kohta;
2) uurida teoreetilisi lähtekohti, kuidas ettevõtte valitsemise ja tulemuslikkuse juhtimise mehhanismide ülesehitus ning kasutamine võivad mõjutada otsustamist ja sellest tulenevalt tulemuslikkust;
3) uurida avalike teenuste osutamise delegeerimist ja veeteenuste osutamise spetsiifikat käsitlevat kirjandust, et mõista valitsemise ja tulemuslikkuse vaheliste seoste kompleksust veesektoris;
4) selgitada Eesti veesektori eripära ning võtta kokku Euroopa Liidu ja riiklike regulatsioonide peamised tunnusjooned, mis moodustavad raamistiku veeteenuste osutamiseks Eesti kohalikes omavalitsustes;
5) analüüsida kvantitatiivse uuringu kaudu erinevate omandistruktuuride mõju vee-ettevõtete tõhususele;
6) analüüsida võrdleva juhtumiuuringu kaudu, kuidas rakendatud ettevõtte ja regulatiivse valitsemise mehhanismid erineva omandistruktuuriga vee-ettevõtetes mõjutavad nende rahalist ja mitterahalist tulemuslikkust;
7) sünteesida uuringute tulemusi, et teha ettepanekuid valitsemise süsteemi parandamiseks suurendamaks tulemuslikkust Eesti veeteenuste sektoris.

Töö uudsus

Ettevõtte valitsemise ja tulemuslikkuse vahelisi seoseid uurivates teadusartiklites kasutatakse peamiselt kvantitatiivseid uurimismeetodeid, eelkõige regressioonanalüüsi. Uuringud, mis kirjeldavad statistilisi seoseid valitsemise ja tulemuslikkuse aspekte iseloomustavate muutujate vahel, ei võimalda luua põhjalikumat arusaamist valitsemise protsessidest, mis põhjustavad teatud käitumist ja viivad konkreetse tulemuslikkuseni (Heracleous 2001, Edwards ja

Clough 2005, Skelcher 2008, Tosi 2008, Ahrens et al. 2009). Sageli eeldatakse, et avaliku sektori ettevõtete juhid ei püüdle ettevõtte suure kasumlikkuse poole, kuid miks seda ei tehta, jääb selgusetuks ilma konkreetsetes ettevõtetes kohapeal läbiviidavate uuringuteta. Seetõttu kasutab käesolev doktoritöö uudset kombineeritud kvantitatiivset ja kvalitatiivset uurimismeetodit (*mixed method research*), et luua põhjalikum arusaamine sellest, kuidas ettevõtte valitsemise mehhanismid mõjutavad tulemuslikkust. Kui uuringu kvantitatiivne osa sisaldab regressioonanalüüsi ja selles uuritakse, kas erinevus ettevõtete omandistruktuuris viib tõenäoliselt erinevusteni nende tõhususes, siis uuringu kvalitatiivne osa koosneb võrdlevast juhtumiuuringust (*comparative case study*), milles selgitatakse välja valitsemise mustrid erinevate omandistruktuuride korral ning analüüsitakse nende mõju tulemuslikkusele.

Vajadust rakendada enam juhtumiuuringut, mis võimaldab luua põhjalikuma arusaamise tulemuslikkuse kujunemisest veeteenuste osutamisel, on rõhutanud mitmed teadlased (vt. Shirley 2008, Araral 2008). Kirjanduses võib leida palju uuringuid, mis võrdlevad avaliku ja erasektori omanduses olevate vee-ettevõtete tulemuslikkust (vt. Renzetti ja Dupont 2004, Abbott ja Cohen 2009, Walter et al. 2009, Berg ja Marques 2011) ökonomeetriliste mudelite abil, kuid nagu osundab Araral (2008), leidub väga vähe tõsiseid uuringuid, mis uurivad teenuse hinda, kättesaadavust ja kasumlikkust veeteenuste kontekstis. Käesolev doktoritöö tuginedes võrdleva juhtumiuuringu meetodile analüüsib erinevalt varasematest veesektoris läbiviidud omandistruktuuri ja tulemuslikkuse uuringutest valitsemise mõju nii rahalisele (nt. kasumlikkus) kui mitterahalisele tulemuslikkusele (nt. teenuse kättesaadavus, veekvaliteet) ning selgitab kompromissi saavutamist nende kahe tulemuslikkuse dimensiooni vahel. Integreerides valitsemist ja tulemuslikkust käsitleva kirjanduse erinevad suunad (ettevõtte valitsemine, regulatiivne valitsemine, avalike teenuste juhtimine, tulemuslikkuse mõõtmine ja juhtimine), on käesolevas doktoritöös pakutud välja uuenduslik raamistik (vt. joonis 18, lk. 101), mis võimaldab selgitada ja analüüsida valitsemise mõju tulemuslikkusele avalike (taristu-) teenuste osutamisel terviklikult.

Üheks põhjuseks, miks tasub uurida valitsemise mõju tulemuslikkusele just veesektoris, on selle spetsiifiline olukord Eestis, kus veeteenuseid osutab suhteliselt suur arv erineva omandistruktuuriga (avaliku sektori, erasektori, avaliku ja erasektori ühises omanduses olevaid) vee-ettevõtteid, mis tegutsevad kohalike omavalitsuste mitmesugustes majandusliku reguleerimise (*economic regulation*) tingimustes. Pealegi tegutsevad Eestis avaliku sektori omanduses olevad ettevõtted ja eraettevõtted sama äriseadustiku ja raamatupidamisseaduse alusel, mis pakub võimalust võrrelda ja analüüsida erasektorile omaste ettevõtte valitsemise ja juhtimisalaste algatuste ülekandumist avaliku sektori ettevõtetele, mida sageli peetakse suhteliselt mahajäänumaks ja ebaefektiivsemaks.

Lõpuks, nagu märgivad Walter et al. (2009) oma kirjanduse ülevaateartiklis, on Põhja- ja Ida-Euroopa vee-ettevõtete tulemuslikkuse kohta teostatud vähe teaduslikke võrdlevaid uuringuid. Autorile teadaolevalt ei sisalda neist ükski

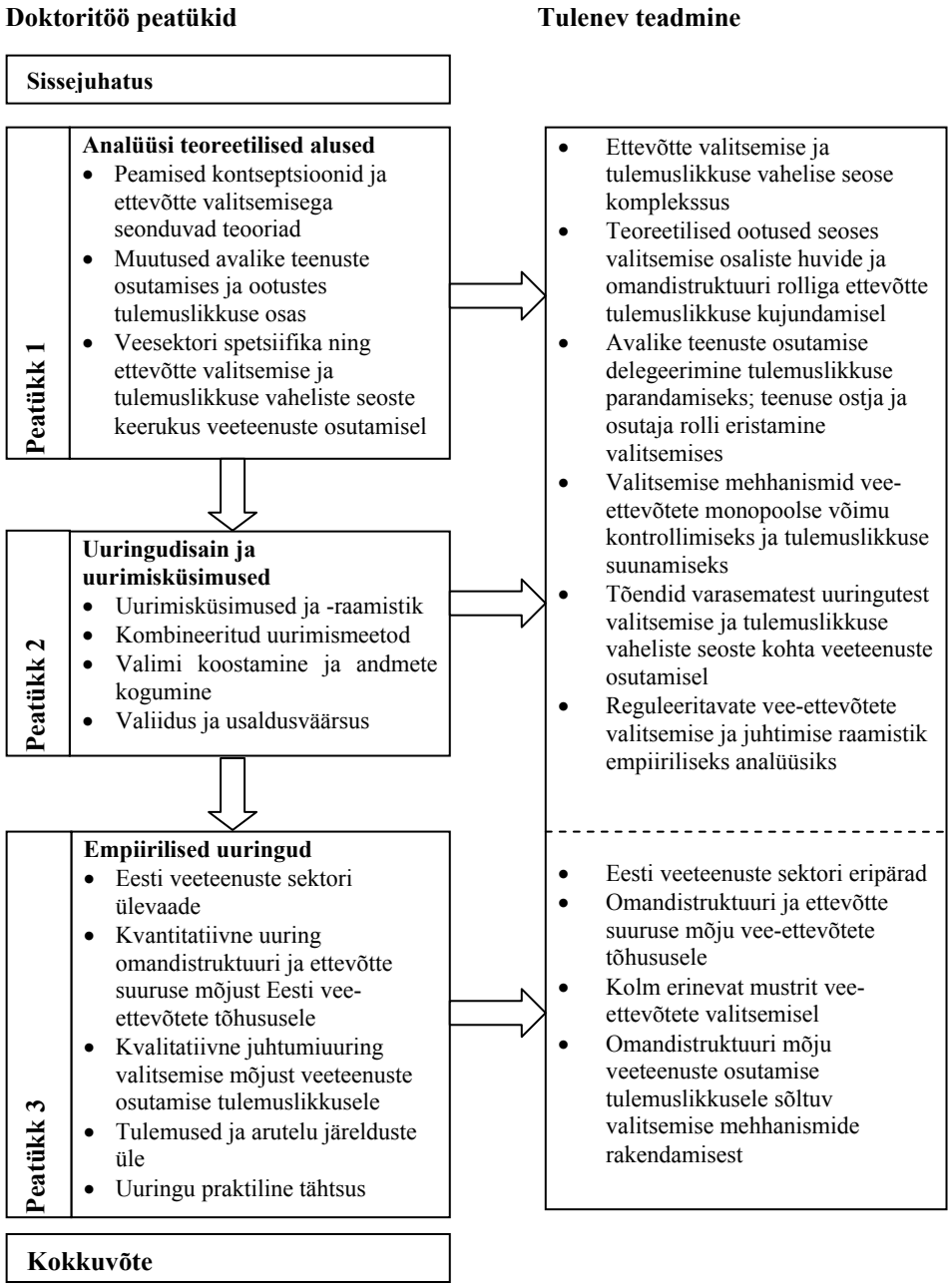
avaliku ja erasektori omanduses olevate vee-ettevõtete valitsemise mehhanismide ja tulemuslikkuse aspektide vaheliste seoste analüüsi ei Eestis ega Balti regioonis laiemalt. Seega võib käesoleva doktoritöö üheks uudsuseks pidada asjaolu, et selles vaadeldakse rahalise ja mitterahalise tulemuslikkuse kujunemise aspekte Eesti vee-ettevõtetes. Kuigi doktoritöö empiirilised uuringud on viidud läbi ühes riigis, pakuvad need mitmekülgseid lähenemisi ja laiemat arusaamist valitsemise ja tulemuslikkuse vahelistest seostest vee-ettevõtete kontekstis.

Töö ülesehitus ja teoreetiline taust

Doktoritöö koosneb kolmest peatükist nagu on näidatud joonisel 1. Esimene peatükk moodustab uurimuse teoreetilise baasi, millest tulenevad uurimisküsimused töö empiirilise osa jaoks. Teises peatükis koondatakse esimese peatüki teoreetilise diskussiooni peamised järeldused koos uurimisküsimustega valitsemise-tulemuslikkuse uurimisraamistikku ning kirjeldatakse ja põhjendatakse kasutatavat uurimismetoodikat. Töö kolmas peatükk sisaldab empiirilist analüüsi ja arutelu uuringu olulisemate tulemuste üle, mida ühildatakse teoreetiliste seisukohtadega.

Doktoritöö teoreetiline osa koondab valitsemist ja tulemuslikkust käsitlevast kirjandusest erinevad suunad (ettevõtte valitsemine, regulatiivne valitsemine, avalike teenuste juhtimine, tulemuslikkuse mõõtmine ja juhtimine), et luua teoreetiline raamistik analüüsimaks valitsemise mõju tulemuslikkusele veeteenuste kontekstis terviklikult. Selle raamistikuga seonduvad olulisemad aspektid on toodud välja alljärgnevates lõikudes.

Teoreetilise osa esimene alapeatükk algab töös kasutatavate peamiste kontseptsioonide – ettevõtte valitsemine, vastutavus (*accountability*) ja tulemuslikkus – tutvustamisega. Kuna valitsemine, vastutavus ja tulemuslikkus on laiahaardelised ja mitmekülgsed kontseptsioonid, siis arutatakse nende erinevate dimensioonide üle ja selle arutelu põhjal esitatakse teoreetilised seosed nende kontseptsioonide vahel. Käesoleva doktoritöö seisukohast on oluline tõdemus, et kui tulemuslikkust saab üldiselt mõjutada ettevõtte valitsemise ja vastutavuse süsteemi kujundamise kaudu, siis erinevused ettevõtte valitsemise ja vastutavuse praktikas võivad põhjustada erinevusi tulemuslikkuses. Ettevõtte valitsemist ja vastutavust on käsitletud kui raamistikku, mis sisaldab teatud mehhanismide kogumit, mõjutamaks, kuidas valitsemise osalised (*governance actors*) avalikke teenuseid osutavates ettevõtetes vastastikku toimivad. Läbi nende interaktsioonide (nt. otsuste tegemisel) saab suunata ühe konkreetse organisatsiooni või organisatsioonide võrgustiku tulemuslikkust.



Joonis 1. Doktoritöö ülesehitus (allikas: autori poolt koostatud)

Järgnevalt analüüsitakse töös peamisi ettevõtte valitsemisega seonduvaid teooriaid, et mõista valitsemise osaliste erinevaid huvisid ja omandivormi rolli ettevõtte tulemuslikkuse kujundamisel. Agenditeooria (*agency theory*), huvigruppide teooria (*stakeholder theory*) ja järelvalveteooria[63] (*stewardship theory*) osundavad erinevatele perspektiividele (konflikt *versus* konsensus) seoses valitsemise osaliste huvidega tulemuslikkuse osas. Läbi erinevate lähenemiste rõhutavad need teooriad valitsemises osalejate eesmärkide ühildamise tähtsust ettevõtte tulemuslikkuse määramisel. Lisaks käsitledes koos käsutusõiguse teooria (*property rights theory*), avaliku valiku teooria (*public choice theory*), tehingukulude teooria (*transaction cost theory*) ja tööstusorganisatsiooni teooria (*industrial organization theory*) keskseid aspekte, osutub võimalikuks põhjalikuma teoreetilise arusaamise loomine omandivormi ja tulemuslikkuse seosest. Kui käsutusõiguse teooria ja avaliku valiku teooria kohaselt on eraomandis olevad ettevõtted tõenäoliselt tulemuslikumad kui avaliku sektori omanduses olevad ettevõtted, siis tehingukulude teooria ja tööstusorganisatsiooni teooria rõhutavad, et omandivormi mõju tulemuslikkusele sõltub tööstusharu iseloomust, milles ettevõtete tegutseb.

Teooriatest tulenevate valitsemise osaliste erinevate huvide valguses uuritakse doktoritöös seejärel peamiste valitsemise mehhanismide funktsioone, mida võib vaadelda kui lahenduste otsimist volitaja (*principal*) ja agendi (*agent*) vahelistele probleemidele (*agency problems*). Töös arutletakse, et erinevate valitsemise mehhanismide vahel on interaktsioon ja neid mehhanisme võib kasutada teineteise asendamiseks või täiendamiseks. Olulise aspektina selgus, et valitsemise mehhanismide oskuslik kasutamine võib parandada ettevõtte tulemuslikkust läbi parema koordinatsiooni ja järelevalve juhtide tegevuse üle. Ettevõtte valitsemise mehhanismide seas omab keskset kohta ettevõtte nõukogu (*board*), mida aktsionärid saavad kasutada oma eesmärkide saavutamiseks (tulemuslikkuse tagamiseks) ettevõttes. Käesoleva doktoritöö seisukohast on oluline tõdemus, et nõukogu elemendid (*board elements*), rollid (*roles*) ja mõjurid (*contingencies*) võivad üheskoos ära määrata, kuidas nõukogu liikmed täidavad oma funktsioone ja lõpuks, kuidas nõukogu mõjutab ettevõtte tulemuslikkust.

Seejärel jätkatakse doktoritöös tulemuslikkuse mõõtmise ja juhtimise süsteemidele esitatavate teoreetiliste nõudmiste uurimist, mis on olulised huvigruppidele (ettevõtte tulemuslikkuse kontrollimiseks ja mõjutamiseks) vajaliku tulemusinformatsiooni tagamise seisukohast. Kirjanduses on märgitud, et informatsiooni asümmeetria on volitaja ja agendi vaheliste konfliktide nurgakiviks ja tulemuslikkusega seotud informatsiooni kättesaadavusel on oluline roll nende eesmärkide ühildamisel valitsemise mehhanismide abil. Käesolev doktoritöö toob välja, et selgelt määratletud eesmärgid ja asjakohased tulemuslikkuse mõõdikud on vajalikud ettevõtte tulemuslikkuse kontrollimiseks ja mõjuta-

[63] Nimetust *'stewardship theory'* on eesti keelde tõlgitud ka kui haldus- ehk administratsiooniteooria (Vutt 2006).

miseks. Veelgi enam, selleks et tagada vastutavus (mitmekülgse) tulemuslikkuse eest ja parandada mitmesuguste omavahel seotud eesmärkide saavutamist, on oluline omavahel seostada ettevõtte erinevad juhtimisprotsessid tulemuslikkuse mõõdikute süsteemse kasutamise teel. Arvestades, et erinevad osalised võivad olla vastutavad erinevate (pika- ja lühiajaliste) eesmärkide saavutamise eest, leitakse doktoritöö teoreetilise osa esimese alapeatüki lõpus, et tulemuslikkuse mõõtmise ja juhtimise süsteem võib suurendada sidusust nende vahel.

Teoreetilise osa teine alapeatükk viib valitsemise ja tulemuslikkuse vahelise seose arutelu avalike teenuste osutamise konteksti, laiendades fookust valitsemise interaktsioonidelt ettevõtte tasandil, interaktsioonidele avalikku teenust osutava ettevõtte ja kohaliku omavalitsuse vahel. Töös arutletakse, et avalike teenuste osutamise delegeerimise tulemusena osutatakse neid teenuseid spetsialiseerunud avaliku sektori, erasektori või avaliku ja erasektori ühise osalusega ettevõtete poolt. Kohalike omavalitsuste roll avalike teenuste osutamisel on muutunud ja nende ülesandeks on olla teenuse tagajaks (*service guarantor*), mis plaanib ja kontrollib teenuste osutamist spetsialiseerunud ettevõtete poolt. Sellise muutusega on kaasnenud spetsiifiliste valitsemise mehhanismide – lepingute – kasutuselevõtmine avalike teenuste osutamisel, et mõjutada nende tulemuslikkust. Fundamentaalne huvide konflikt, mis mõjutab avalikku teenust osutava ettevõtte tulemuslikkust seondub kohaliku omavalitsuse võimaliku kahese rolliga selles: üheltpoolt kui ostja (peamiselt huvitatud mitterahalisest tulemuslikkusest) ja teisalt kui omanik (peamiselt huvitatud rahalisest tulemuslikkusest). Töös arutletakse, et selliste mehhanismide loomine, mis võimaldaksid lahendada kohaliku omavalitsuse vastakatest rahalistest ja mitterahalistest huvidest tulenevaid konflikte, on avaliku sektori ettevõtete valitsemise üheks peamiseks väljakutseks. Kokkuvõttes järeldatakse, et erinevad institutsionaalsed valikud avalike teenuste osutamise delegeerimisel kätkevad võimalusi avalike teenuste osutamise tõhususe ja mõjususe (*effectiveness*) suurendamiseks, kuid see sõltub suuresti teistest valitsemise mehhanismidest (nt. lepingutest) ja konkreetsest tööstusharu kontekstist (nt. konkurentsitasemest). Varasemate empiiriliste uuringute tulemused näitavad, et avalike teenuste osutamise erasektorile väljadelegeerimisega kaasnev tulemuslikkus on muudest teguritest sõltuv ning ei ole ühte sobivaimat valitsemise lahendust kõigi avalikke teenuseid osutavate ettevõtete jaoks. Selleks, et formuleerida teooriatesse panustavaid ettepanekuid ning anda praktilisi soovitusi juhtidele, on vajalik mõista ja võtta arvesse konkreetse avaliku teenuse eripärasid.

Eeltoodust tulenevalt keskendub teoreetilise osa kolmas alapeatükk valitsemise ja tulemuslikkuse vahelise seose analüüsimisele spetsiifilises veeteenuste sektoris. Arutelus vee-ettevõtete valitsemise ja tulemuslikkuse üle käsitletakse loomuliku monopoli tingimusi ja sellega seonduvaid vee-ettevõtete eripärad. See arutelu tõstatas mitmeid spetsiifilisi küsimusi seoses monopoolsete vee-ettevõtete majandusliku reguleerimisega, mida võib pidada üheks peamiseks valitsemisega seonduvaks kaalutluseks, et saavutada tõhus ja mõjus vee-

teenuste osutamine. Arutelu käigus selgitati välja, et erinevad regulatsioonimeetodid vee-ettevõtete käitumise kontrollimiseks sisaldavad erineval määral stiimuleid tulemuslikkuse parandamiseks. Teenuslepinguid käsitletakse kui vahendeid, et leppida kokku „mängureeglites", mis võimaldaksid kohalikel omavalitsustel mõjutada veeteenuste osutamise tulemuslikkust. Veelgi enam, eraldiseisvate regulaatorite (*regulatory agency*) loomist käsitletakse kui katset eraldada vee-ettevõtete juhtimine kohalike omavalitsuste poolsest poliitilisest sekkumisest, mis võib õõnestada veeteenuste osutamise tulemuslikkust. Kokkuvõttes on regulatiivse valitsemise algatused suuresti suunatud turukonkurentsile iseloomuliku surve tekitamisele vee-ettevõtete juhtimisel, et suunata neid suurema tõhususe ja mõjususe poole oma tegevustes. Varasemate empiiriliste uuringute tulemused lahknevad ja ei sisalda veenvaid tõendeid, et avaliku sektori või eraomanduses olevad vee-ettevõtted oleksid suhteliselt tulemuslikumad. Uuringute tulemused osutavad, et rahalise ja mitterahalise tulemuslikkuse paranemine sõltub monopoolsete veeteenuste osutajate üle rakendatava kontrolli tüübist ja rangusest. Veeteenuste osutamise edukaks delegeerimiseks on vajalik sobivate valitsemise institutsioonide olemasolu, mis võimaldaksid vähendada informatsiooni asümmeetriat, et tagada erinevate osaliste sageli vastakate eesmärkide (nt. teenusekvaliteet *versus* kasumlikkus) saavutamine (tulemuslikkus).

Lõpetuseks on aruteludest valitsemise, tulemuslikkuse ja nende vaheliste seoste kohta avalike teenuste, ja iseäranis veeteenuste osutamisel arendatud uurimisraamistik ja -küsimused, mis võimaldavad doktoritöö empiirilises osas analüüsida valitsemise mõju vee-ettevõtete tulemuslikkusele.

Uurimismetoodika ja andmed

Käesoleva doktoritöö empiiriline uuring viibi läbi kvantitatiivseid ja kvalitatiivseid uurimismeetodeid kasutades, mistõttu sisaldab see kombineeritud uurimismeetodi elemente. Empiirilise uuringu esimene osa sisaldas kvantitatiivset analüüsi omandivormi ja ettevõtte suuruse mõju kohta Eesti vee-ettevõtete tehnilisele (tegevus-)tõhususele (*technical efficiency*). Selle teostamine koosnes kolmest alljärgnevast sammust. Esiteks viidi läbi andmeraja analüüs (*data envelopment analysis* – DEA), et leida erinevate aastate lõikes valimisse kuuluvate vee-ettevõtete suhtelised tõhususe näitajad. DEA analüüsil kasutati ühte sisendmuutujat (*input variable*), vee-ettevõtete tegevuskulud, ja kolme väljundmuutujat (*output variable*): ettevõtete poolt teenindatavate elanike arv, toodetud joogivee maht ja töödeldud reovee maht. Pärast DEA skooride arvutamist, hinnati väliste tegurite, s.o. omandivormi ja ettevõtte suuruse keskmist mõju tõhususele. Selleks teostati kvantitatiivse uuringu teise sammuna regressioonanalüüs, milles nimetatud välised tegurid regresseeriti eelnevalt leitud ja seejärel bootstrap-simulatsiooni käigus korrigeeritud tõhususeskooridega, mis on lõigatud (*truncated*) ja piiratud intervalliga [0, 1]. Nimetatud analüüsi käigus leiti lõigatud muutuja mudeli (*truncated regression model*) parameetrite

hinnangud suurima tõepära (*maximum likelihood)* meetodil. Kvantitatiivse uuringu viimase sammuna teostati ühefaktoriline dispersioonanalüüs (*one-way analysis of variances* – ANOVA), mille käigus hinnati statistiliselt oluliste erinevuste olemasolu vee-ettevõtete keskmises tõhususes ja kasumlikkuses omandivormist, suurusest ja omandivormi-suuruse interaktsioonist lähtudes.

Eelnimetatud kvantitatiivse uuringute teostamisel kasutatud paneelandmed sisaldasid informatsiooni kõigi olulisemate Eesti vee-ettevõtete kohta perioodil 2005–2007. Valim sisaldas andmeid 43 Eesti vee-ettevõtte kohta, mis osutasid suuresti sarnaseid teenuseid. Samas erinesid valimisse kaasatud ettevõtted omandistruktuuri ja suuruse poolest. Omandistruktuuri alusel jagunesid vee-ettevõtted kolme gruppi: avaliku sektori, erasektori ning avaliku ja erasektori ühises omanduses olevad ettevõtted. Lähtudes võrdse jaotuse põhimõttest ja teistest kirjanduses toodud näidetest, jaotati vee-ettevõtted suuruse alusel kolme gruppi järgmisel: väikesed ettevõtted osutavad teenuseid 501–3300 inimesele, keskmise suurusega 3301–10000 inimesele, suured ettevõtted 10001–100000 inimesele ning väga suured ettevõtted osutavad veeteenuseid enam kui 100000 inimesele.

Doktoritöö empiirilise uuringu teine osa koosneb kvalitatiivsest juhtumi-uuringust, et luua põhjalikumat arusaama sellest, kuidas valitsemise mehhanismide ülesehitus ja kasutamine kujundab erineva omandivormiga vee-ettevõtetes tulemuslikkust. Selles uuringus kasutati *instrumentaalse juhtumiuuringu* lähenemist sisaldades teooria arendamise elemente. Juhtumiuuringu eesmärgiks on võrrelda valitsemise praktikaid ja saavutatud tulemuslikkust vee-teenuste osutamisel ning uurida üldisemalt seoseid valitsemise spetsiifiliste aspektide (mehhanismid, osalised või protsessid) ja (rahalise/mitterahalise) tulemuslikkuse vahel vee-ettevõtetes. See kestvusuuring (*longitudinal study*) keskendub kolme vee-ettevõtte kogemusele erinevatest Eesti linnadest perioodil 2000–2009. Kahe väljavalitud ettevõtte puhul on tegemist Eesti kahe suurima vee-ettevõttega, mis annab võimaluse süveneda mitmesugustesse keerukatesse ettevõtte ja regulatiivse valitsemisega seotud probleemidesse. Kolmas väljavalitud vee-ettevõte on suhteliselt väiksem, kuid selle puhul on tegemist äärmusliku näitega regulatiivse valitsemise konfliktide mõjust veeteenuste osutamise tulemuslikkusele Eesti veesektorist.

Käesolevat empiirilist juhtumiuuringut võib määratleda kui kirjeldavat (*descriptive*) ja avastuslikku (*exploratory*), mis viidi läbi kahes etapis. Andmete kogumise esimeses etapis uuriti põhjalikult uuringusse kaasatud organisatsioonidega seotud avalikult kättesaadavaid dokumente (nt. kohalike omavalitsuste strateegiad ja määrused, teenuslepingud jmt) ja muid materjale (nt. ettevõtete põhikirjad ja majandusaasta aruanded, ajaleheartiklid jmt), mis seonduvad veeteenuste osutamisega. Juhtumiuuringu teises etapis viidi läbi poolstruktureeritud intervjuud peamiste veeteenuste osutamisega seotud osalistega väljavalitud linnadest. Intervjueeritavateks olid vee-ettevõtete tippjuhid, nõukogu liikmed, linnavalitsuse liikmetest poliitikud ja veeteenuste korraldamise eest vastutavad linnaametnikud. Juhtumiuuringus osalenud vee-ettevõtetes

või linnavalitsustes viidi läbi 13 salvestatud intervjuud, mis sisaldavad kokku 18 tundi vestlust ja mille põhjal valmis 285 lehekülje pikkune transkriptsioon. Enamus intervjuudest kestis poolteist kuni kaks tundi.

Uuring tugineb nii esmastele kui teisastele allikatele. Kuna andmed koguti mitmest allikast, oli võimalik nende analüüsimisel kasutada triangulatsiooni, mis võimaldas paremat arusaamist valitsemise praktikatest ja suurendas uuringutulemuste valiidsust. Andmeid koguti intervjuude, küsimustike, avaldatud materjalide, organisatsioonisiseste dokumentide, valdkondliku statistika ja lühikeste teostatud vaatluste kaudu perioodil mai 2010 – juuli 2011.

Töös püstitatud uurimisküsimused ja põhitulemused

Diskussioon valitsemisest, tulemuslikkusest ja nende vahelistest seostest avalike teenuste ja iseäranis veeteenuste osutamisel, viis doktoritöö alapeatükis 2.1. toodud analüüsiraamistiku loomiseni ja seitsme uurimisküsimusi formuleerimiseni. Võttes arvesse ettevõtte valitsemise teoreetilistest perspektiividest tulenevaid ootusi tulemuslikkuse osas, formuleeriti esimene uurimisküsimus selgitamaks välja omandivormi mõju vee-ettevõtete tõhususele *per se*. Ülejäänud kuus uurimisküsimust, millele sai vastused leitud võrdleva juhtumiuuringu kaudu, püstitati, et selgitada välja, kuidas erineva omandivormiga vee-ettevõtteid valitsetakse ja kuidas erinevad valitsemise mustrid mõjutavad nende rahalist ja mitterahalist tulemuslikkust. Teine, kolmas ja neljas uurimisküsimus on suunatud ettevõtte valitsemise mehhanismide erilaadsetele aspektidele ja viies uurimisküsimus regulatiivse valitsemise mehhanismide tunnustele, mis mõjutavad vee-ettevõtete tulemuslikkust. Lõpetuseks keskendub kuues uurimisküsimus vastutavusele ja tulemuslikkuse üle aruandluse korraldamisele valitsemise osaliste vahel ning viimane seitsmes uurimisküsimus on suunatud saavutatud kompromissidele rahalise ja mitterahalise tulemuslikkuse vahel vee-ettevõtetes.

K1. Kas avaliku sektori omanduses, eraomanduses ning avaliku ja erasektori ühises omanduses olevate vee-ettevõtete tõhusus erineb oluliselt?
Analüüs näitas, et ühtegi vaadeldud omandivormi ei saa seostada suurema või madalama tõhususega olemasoleva valimi korral. Seega uuringu tulemused ei toetanud teoreetilisi seisukohti (käsundusteooriast ja avaliku valiku teooriast), et avaliku sektori omanduses olevad ettevõtted on suhteliselt vähem tõhusad. Lisaks hinnati omandivormi mõju tõhususele ka ettevõtte suuruse kategooriate (väike, keskmine, suur ja väga suur) lõikes, kus tulemused samamoodi ei kinnitanud arvamust, et eravõtted on üheselt tõhusamad kui avaliku sektori omanduses olevad ettevõtted. Samas osundasid tulemused, et väikesed vee-ettevõtted on keskmiselt oluliselt vähem tõhusad kui keskmise suurusega või suured ettevõtted.

K2. Mis on erinevat tüüpi omanike peamised eesmärgid vee-ettevõtetes?
Vastus sellele küsimusele tõi esile olulise erinevuse erinevat tüüpi omanike peamises huvis seos vee-ettevõtetega. Analüüsi põhjal saab väita, et vee-ettevõtete eraomanikud olid peaasjalikult huvitatud rahalisest tulemuslikkusest, samas kui kohalikud omavalitsused olid omanikena huvitatud pigem mitterahaliste eesmärkide saavutamisest.

K3. Milliseid tunnused iseloomustavad vee-ettevõtete nõukogu ja juhatuse liikmeid?
Analüüsi tulemused osundavad, et vee-ettevõtete juhtorganite liikmetel olid erinevad teadmised ja praktilised kogemused. Ilmneb, et osaliselt või täielikult avaliku sektori omanduses olevate vee-ettevõtete nõukogudes ja juhatustes olid liikmed, kellel oli suhteliselt laialdane juhtimiskogemus erasektorist, head teadmised veesektori spetsiifikast ja/või mõjuvõim kohalikus poliitikas. Enamgi veel, osaliselt avaliku sektori ja osaliselt erasektori omanduses olev vee-ettevõte kätkes endas emafirma kaudu unikaalset rahvusvahelist kogemust vee-ettevõtete juhtimisel ja valitsemisel. Täielikult eraomanduses oleva vee-ettevõtte nõukokku, erinevalt kahest teisest juhtumiuuringusse kaasatud ettevõttest, kohalikke poliitikuid ei kuulunud. Samuti oli eraomanduses oleva vee-ettevõtte nõukogu ja juhatuse liikmetel oluliselt väiksem juhtimiskogemus ja teadmine veeteenuste eripärast, mis pärines suhteliselt väiksematest kommunaalteenuseid osutavatest ettevõtetest.

K4. Millised on nõukogu ja juhatuse rollid vee-ettevõtete tulemuslikkuse mõjutamisel?
Uuringu tulemused näitavad, et osaliselt või täielikult avaliku sektori omanduses olevates vee-ettevõtetes, kus nõukogu ja juhatuste liikmetel oli suhteliselt laiaulatuslikumad teadmised ja kogemused, teostas nõukogu kontrolli juhatuse tegevuse üle, kinnitas (juhatuse esimehe ettepanekul) konkreetsed eesmärgid ja koopteeris mõjukaid huvigruppide esindajaid ettevõtte väliskeskkonnast mõjutamaks ettevõtte tulemuslikkust. Täielikult avaliku sektori omanduses olevas vee-ettevõttes olid nõukogu funktsioonid ulatuslikumad ning selle roll ettevõtte tulemuslikkuse mõjutamisel veelgi olulisem kui osaliselt avaliku ja osaliselt eraomanduses olnud vee-ettevõttes. Nii nimetas just nõukogu ametisse juhatuse esimehe ja lõi vajaliku stiimulite skeemi (*incentive scheme*) omavaheliste eesmärkide ühildamiseks. Lisaks oli täielikult avaliku sektori omanduses olevas vee-ettevõttes, erinevalt avaliku ja erasektori ühises omanduses olnud ettevõttest, nõukogu aktiivselt seotud aruteludega veehinna muutmise üle ning nõukogu otsuseid ja ettepanekuid veehinna kohta arvestati linnavalitsuse poolt veehinna ametlikul kehtestamisel. Täielikult eraomanduses olevas vee-ettevõttes aga aktsionärid ei kasutanud nõukogu kui valitsemise mehhanismi *de facto*.

Olenemata toodud erinevustest, mõjutas sarnaselt kõigis kolmes vee-ettevõttes nõukogu kasutamist formaalse kontrollimehhanismina asjaolu, et peamiste ettevõtte valitsemise osaliste (nõukogu esimees ja juhatuse esimees) vahel oli tugev usaldus. Sel põhjusel jäi nõukogu koosolekute panus juhatuse kontrollimisel ja eesmärkide saavutamise poole suunamisel ka vastavalt väiksemaks.

K5: Kuidas mõjutab veeteenuse osutamist reguleerivate lepingute ning regulatiivsete institutsioonide ülesehitus ja kasutamine vee-ettevõtete tulemuslikkust?

Analüüsi tulemused toetavad seisukohta, et veeteenuste osutamine eraettevõtete poolt nõrga regulatiivse raamistiku tingimustes võib olla seotud riskiga ja lõppeda läbikukkumisega. Juhtumi puhul, kus vee-ettevõtet kontrollis eraomanik, kuid erastamisel oli sõlmitud kohaliku omavalitsuse ja vee-ettevõtte vahel ranged lepingud, mis sätestasid selgelt vee-ettevõtte õigused (tulu) ja kohustused (varustamine), ei tekkinud osapoolte vahel tõsiseid vee-teenuste osutamise tulemuslikkust õõnestavaid konflikte. Samas näitas juhtumiuuring, et selliste rangete lepingute puudumine ei pruugi põhjustada volitaja ja agenda vahelisi konflikte veeteenuste osutamisel, kui vee-ettevõte on avaliku sektori omanduses ja lepingu asemel saab kohalik omavalitsus regulaatorina eesmärkide saavutamiseks kasutada ettevõtte nõukogu.

Samuti ilmnes, et vee-ettevõtete finantstulemused sõltusid suuresti veehinna reguleerimiseks kasutatud hinnameetodist, mis kõigil kolmel uuritud juhtumil oli suunatud vee-ettevõtte kasumlikkuse kontrollimisele (*rate-of-return approach*), kuid jättis sätestamata selge piirmäära monopoolsete vee-ettevõtete põhjendatud kasumile. Põhimõtteline erinevus uuritud kolme vee-ettevõtete hinnamehhanismis seisnes selles, et osaliselt avaliku sektori ja osaliselt eraomandis oleva vee-ettevõtte puhul toimus veehinna korrigeerimine regulaarselt lepingus kokkulepitud valemi alusel, mis tagas veetariifide automaatse suurenemise võttes arvesse eelmise aasta inflatsiooni. Ülejäänud kahe juhtumiuuringusse kaasatud vee-ettevõtte puhul sellised hinnavalemid puudusid ja kõik muutused veetariifides sõltusid lõplikult kohaliku omavalitsuse eraldiseisvatest otsustest. Täielikult eraomanduses oleva vee-ettevõtte juhtum näitas, et informatsiooni asümmeetria tingimustes vee-ettevõtte ja regulaatori vahel arenev usaldamatus ja konfliktid võivad viia regulatiivse diskretsioonini veehinna määramisel, mis võib kahjustada vee-ettevõtte suutlikust katta oma kulusid ja teha investeeringuid teenuse kvaliteedi tõstmiseks.

K6. Kuidas vastutavus võimaldab valitsemise osalistel saavutada oma eesmärke vee-ettevõttes?

Analüüsi tulemused näitavad, et vee-ettevõtete tegevjuhtide vastutavus tulemuslikkuse eest aktsionäride või viimaste huve esindavate nõukogu liikmete ees (*managerial accountability*) võimaldas juhtidel luua usaldust oma tegevuse

suhtes ja saada vabadust juhtimisotsuste tegemiseks. See vastutavus võimaldas vähendada informatsiooni asümmeetriat, teostada kontrolli tegevjuhtide üle ja suunata neid ettevõtte (rahaliste) eesmärkide saavutamise suunas. Veel enam, aruandmine nõukogule finantstulemuste osas võimaldas tegevjuhtidel teenida ettevõtte kasumlikkusest sõltuvaid boonuseid, mis motiveeris neid suurendama ettevõtete tegevuse tõhusust.

Poliitilise vastutavuse (*political accountability*) kontekstis ilmnes, et omavahel tuleb seostada erinevates kohalike omavalitsuste strateegiates, eelarvetes ja (teenus-)lepingutes olevad realistlikud ja mõõdetavad eesmärgid (tulemusindikaatorid), et kohaliku omavalitsused kui regulaatorid saaksid suunata vee-ettevõtteid enda pikaajaliste eesmärkide saavutamise suunas. Poliitilise vastutavuse puudumine võib viia poliitilise diskretsioonini otsuste tegemisel kohaliku omavalitsuse võimuorganites, mis omakorda võib halvendada vee-ettevõtte finantstulemusi ja teenuse osutamise jätkusuutlikust.

Lõpetuseks selgus uuringust, et sotsiaalset vastutavust (*social accountability*) ja läbipaistvust (*transparency*) võib vaadelda kui praktilisi vahendeid ettevõtte maine ja usaldusväärsuse suurendamiseks avalikkuse silmis, mida kaldus pidama suhteliselt olulisemaks väärtpaberibörsil noteeritud vee-ettevõtte. Suhteliselt suurem läbipaistvus tähendab samas, et välistel huvigruppidel on võimalik reageerida saadavale ettevõtte tulemusinformatsioonile, millega võivad kaasneda mittesoovitavad ettevõtte tulemuslikkust mõjutavad tegevused nende huvigruppide poolt. Seetõttu, jäädes suhteliselt vähem läbipaistvaks ettevõtte rahalise ja mitterahalise tulemuslikkuse osas, on ettevõtte juhtidel võimalik 'segamatult' tegutseda oma volitajate (nt. aktsionäride) huvidest lähtuvalt.

K7. Millised on kompromissid rahalise ja mitterahalise tulemuslikkuse vahel vee-ettevõtetes?

Uuringust ilmnes, et eraomanike kontrolli all olevates vee-ettevõtetes, erinevalt täielikult avaliku sektori kontrolli all olevast vee-ettevõttest, oli rahalise ja mitterahalise tulemuslikkuse vahel saavutatud kompromiss ühe tulemuslikkuse dimensiooni suhtes nihkes. Veelgi enam, need nihked veeteenuste osutamise rahalise ja mitterahalise tulemuslikkuse vahel toovad esile legitiimsuse probleemid. Nii põhjustas avaliku ja erasektori ühises omanduses oleva vee-ettevõtte suur kasum rahulolematust poliitikute ja kohalike elanike seas, mis viis senisest rangemate keskvalitsuse poolt kehtestatud hinnaregulatsioonide loomiseni. Samas täielikult eraomandis oleva vee-ettevõtte puhul oli just ettevõtte kahjum osa legitiimsuse probleemist, kui linnavalitsus keeldus veehinda tõstmast.

Kokkuvõtlikult, juhtumiuuringu tulemuste põhjal osutus võimalikuks visandada kolm erinevat valitsemise mustrit, s.o *lepingute kaudu reeglitel põhinev, nõukogu kaudu usaldusel põhinev* ning *lepingute ja nõukoguta diskretsioonil põhinev valitsemine,* et kirjeldada, kuidas erineva omandivormiga vee-ette-

võtteid valitseti ja kuidas need erinevad valitsemise mustrid mõjutasid rahalist ja mitterahalist tulemuslikkust. Tulemuslikkuse osas saavutati kõigis kolmes vee-ettevõttes erinev kompromiss rahalise ja mitterahaliste tulemuste vahel mõjutatuna valitsemise mehhanismide ülesehitusest ja kasutamisest osaliste poolt oma huvide kaitsmisel.

Tuginedes juhtumiuuringu empiiriliste tulemuste arutelu käigus esitatud väidetele, sõnastati alljärgnevat viis teoreetilisse diskussiooni panustavat väidet, kuidas omandistruktuur sõltuvalt kasutatud valitsemise mehhanismidest võib mõjutada veeteenuste osutamise tulemuslikkust:

Väide 1. Veeteenuste osutamine eraettevõtte poolt ilma *ex ante* kokkuleppimata kirjalike reegliteta viib tõenäoliselt volitaja-agendi probleemideni kohaliku omavalitsuse ja ettevõtte vahel, mis võib takistada regulatiivsete otsuste tegemist ja sellest tulenevalt kahjustada veeteenuste osutamise jätkusuutlikust.

Väide 2. Avaliku sektori omanduses olevas vee-ettevõttes võib nõukogu efektiivselt täita kohaliku omavalitsuse kahest rolli, kui nõukogu on distantseeritud parteipoliitikast ja koosneb kohaliku omavalitsuse volikokku kuuluvatest majandusliku suunitlusega liikmetest, et tasakaalustada veeteenuste osutamisega seonduvaid rahalisi ja mitterahalisi eesmärke.

Väide 3. Avaliku sektori omanduses oleva vee-ettevõtte juhtimine kohaliku omavalitsuse volikogu liikme poolt, kellel on vajalikud professionaalsed teadmised ja kelle tasu sõltub ettevõtte kasumlikkusest, kätkeb huvi tagada nii hea rahaline kui mitterahaline tulemuslikkus veeteenuste osutamisel.

Väide 4. Usaldus, mida tugevdab avaliku sektori omanduses oleva vee-ettevõtte juhatuse ja nõukogu liikmete osalemine kohalikus poliitikas, võib võimaldada kohalikul omavalitsusel loobuda kasutamast formaalseid ja suhteliselt kulukamaid kontrollimehhanisme, et tagada nõutud rahaline ja mitterahaline tulemuslikkus veeteenuste osutamisel.

Väide 5: Veeteenuste osutamine avaliku ja erasektori ühises omanduses oleva vee-ettevõtte poolt, mille juhtimist teostab eraomanik range teenuslepingu alusel, moodustab valitsemise raamistiku, mis võib viia hea mitterahalise ja suhteliselt suurema rahalise tulemuslikkuseni veeteenuste osutamisel.

Kokkuvõtteks, vaadeldud omandivormidel on erinev mõju vee-ettevõtete tulemuslikkusele, mis sõltuvalt kasutatud valitsemise mehhanismidest võib olla negatiivne või positiivne. Erasektori juhtimise all olev vee-ettevõte (sh. avaliku

ja erasektori ühise omanduse korral) võib saavutada suhteliselt suurema tulemuslikkuse, kui partnerite vahelised õigused ja kohustused on selgelt fikseeritud rangete lepingutega. Avaliku sektori omanduses olevad ettevõtted, mida sageli peetakse vanamoelisteks ja ebaefektiivseteks, võivad saavutada hea tulemuslikkuse ka ilma rangete lepinguliste korraldusteta, kui vee-ettevõte on seotud kohaliku omavalitsusega nõukogu kaudu professionaalsusele tuginevalt.

Töö praktiline tähtsus

Üldiselt näitasid käesoleva doktoritöö tulemused, et poliitikud, regulaatorid ja vee-ettevõtete juhid, kes on seotud veeteenuste osutamisega, peaksid paljudes olukordades kaalutlema valitsemise mehhanismide ülesehituse ja kasutamise mõju tulemuslikkusele senisest põhjalikumalt. Vee-teenuste osutamise tulemuslikkust on võimalik suunata süsteemsemalt, kui tugineda täienevatele teadmistele konkreetsete valitsemise mehhanismide eripäradest ja kasutamise tagajärgedest. Nii on võimalik olla tõhusam ja mõjusam seatud rahaliste ja mitterahaliste eesmärkide saavutamisel. Detailsemalt võib käesoleva doktoritöö põhjal välja tuua järgmised soovitused veeteenuste reguleerimise ja osutamisega tegelevatele praktikutele.

Esiteks, praktiline veeteenuste osutamise korraldamisega seonduv küsimus hõlmab otsuseid, mida kohalikud omavalitsused saavad teha seoses vee-ettevõtete erastamise ja ühendamisega, et vähendada kulusid ja suurendada tõhusust veeteenuste osutamisel. Empiiriliste uuringute tulemused näitavad, et Eesti vee-ettevõtted tegutsevad suhteliselt madala tõhususega ja erasektori osalusega vee-ettevõtted ei ole iseenesest oluliselt tõhusamad kui täielikult avaliku sektori omanduses olevad ettevõtted. Seega ainuüksi erastamine ei lahenda tõhususega seonduvaid probleeme veesektoris. Kuna üldine tõhususe tase on Eesti veesektoris suhteliselt madal, siis regulaator(id) peaksid kaaluma veehinna reguleerimisel selliste meetodite rakendamist, mis sisaldavad selgeid stiimuleid tõhususe suurendamiseks vee-ettevõtetes. Samas näitasid analüüsi tulemused, et vee-ettevõtete tõhususus suureneb koos ettevõtte suurusega. Seetõttu võib anda soovituse, et kohalikud omavalitsused peaksid kaalutlema võimalusi suuremate vee-ettevõtete loomiseks läbi ühinemiste ja kasutama koostöövõimalusi, et saada kasu mastaabiefektist. See eeldaks eraldi analüüsi teostamist selle üle, millised konkreetsed vee-ettevõtted ja mis tüüpi mastaabisäästust (nt. investeeringutelt või igapäevaselt majandustegevuselt) Eestis enim võidaksid.

Teiseks toob käesolev uuring välja, et kui kohalikud omavalitsused otsustavad erastada oma vee-ettevõtted, siis tuleks vee-ettevõtte ja kohaliku omavalitsuse vahel *ex ante* sätestada kirjalike lepingutega selged reeglid veetariifide ja nõutava teenusekvaliteedi kohta, et vältida osapoolte erinevatest huvidest tingitud konfliktide tekkimist ning et oleks võimalik suunata ettevõtet soovitud tulemuslikkuse poole. Veelgi enam, koostöö alguses peaksid kohalik omavalitsus ja eraomanikust partner leppima kokku vastutavuse ja aruandmise põhimõtetes, et hoida ära usaldamatuse tekkimist ja vältida osapoolte võima-

likust oportunistlikust käitumisest tuleneda võivaid probleeme. Vastasel korral võivad lepingu ebamääraste reeglite (eesmärkide) erinevad tõlgendused ja regulaatori kontrollivõimaluste puudumine kahjustada valitsemissuhteid veefirmaga ja päädida tulemuslikkust vähendava diskretsiooniga regulatiivsete otsuste tegemisel.

Kolmandaks juhitakse töös tähelepanu, et avaliku sektori omanduses olevas ettevõttes võib nõukogu efektiivselt täita kohaliku omavalitsuse kahest rolli, kui nõukogu jääb distantseerituks parteipoliitikast ja koosneb kohaliku omavalitsuse volikokku kuuluvatest majandusliku suunitlusega liikmetest, et tasakaalustada veeteenuste osutamisega seonduvaid rahalisi ja mitterahalisi eesmärke. Seega peaks kohalik omavalitsus hoolikalt arvesse võtma vee-ettevõtte nõukogu liikmeteks määratavate isikute erialaseid teadmisi, ärikogemust ja poliitilist aktiivsust kohalikul tasandil, et tagada nii äriliste kui sotsiaalsete kaalutluste esindatus nõukogus ning saavutada tasakaal rahalise ja mitterahalise tulemuslikkuse vahel. Nii toimides on võimalik leida lahendus peamisele vastuargumendile, miks avalikke teenuseid osutavad ettevõtted ei peaks olema kohalike omavalitsuste omanduses, s.o. ettevõtte tulemuslikkust vähendav parteipoliitilistest eesmärkidest lähtuv sekkumine juhtimisse. Samas selgus, et Eesti kohalikel omavalitsustel puudub kirjalik omanikustrateegia nende omanduses olevate ettevõtete kohta, mis suurendaks selgust ja läbipaistvust seoses kohalike omavalitsuste kui aktsionäride huvidega avalikke teenuseid osutavates ettevõtetes. Selged omanikustrateegiad nagu need on kasutusel Põhjamaades (nt. Rootsis või Norras) võiksid hoida ära potentsiaalseid huvide konflikte, mis tulenevad kohaliku omavalitsuse kahesest rollist (aktsionär ja teenuse tagaja) enda omanduses olevas avalikke teenuseid pakkuvates ettevõtetes.

Neljandaks rõhutavad uuringu tulemused, et valitsemise mehhanisme kujundades ja kasutades tuleks võtta arvesse seda, kuidas need aitavad säilitada ja luua usaldust peamiste valitsemise osaliste vahel. See on oluline, sest nagu juhtumiuuringu tulemused näitasid, kasutatud valitsemise mehhanismid toimisid kuni oli usaldus ja lakkasid korralikult funktsioneerimast, kui usaldus kadus. Lisaks tuleb pidada oluliseks arutelusid ja kontaktide säilitamist valitsemise osaliste vahel väljaspool ametlikult kokkulepitud aruandmistoiminguid, et tugevdada usaldust ja hõlbustada otsuste tegemist. Kokkuvõttes võib niimoodi tugevdatud usaldus asendada *ex ante* formaalseid ja suhteliselt kulukamaid kontrollimehhanisme vajaliku tulemuslikkuse tagamiseks veeteenuste osutamisel.

Lõpetuseks, uuringu tulemused toovad esile, et poliitikud, regulaatorid ja vee-ettevõtete juhid peaksid keskenduma nii hea rahalise kui mitterahalise tulemuslikkuse kindlustamisele, kui loovad ja kasutavad valitsemise mehhanisme veeteenuste osutamisel. Veel enam, oluline on saavutada tasakaal nende kahe tulemuslikkuse dimensiooni vahel vee-ettevõtetes, sest vastasel korral võivad tõusta esile vee-teenuste osutamisega seonduvad legitiimsuse probleemid.

Uuringu piirangud ja soovitused edasisteks uuringuteks

Käesoleva uuringu piirangud seonduvad peamiselt valitud uurimismeetoditega ja organisatsioonide valimisega juhtumiuuringuks. Soovitused edasisteks uuringuteks toonitavad vajadust laiendada ja täpsustada loodud teoreetilist raamistikku, mille alusel analüüsida valitsemise mõju avalikke teenuseid osutava ettevõtte tulemuslikkusele.

Esiteks tuleb kvantitatiivse uuringu kohta märkida, et tõhususe hindamiseks DEA mudelisse sisend- ja väljundmuutujate valimine oli raskendatud andmete piiratud kättesaadavuse tõttu vee-ettevõtete mitterahaliste sisendite (nt. kapitali koguse) osas. Seepärast on käesolevas doktoritöös Eesti vee-ettevõtete tõhususe analüüsimisel kasutatud sisendmuutujana mitterahaliste näitajate asemel nende ettevõtete tegevuskulusid (koos põhivara kulumiga) väljendatuna eurodes. Siinkohal tuleb möönda, et kuigi analüüsi teostamise käigus avastati ja eemaldati valimist mõningad ekstreemsete näitajatega ettevõtted (*outliers*) ning valim koosnes üksnes sarnase tootmistsükliga vee-ettevõtetest, siis jääb ikkagi alles võimalus, et mõnede valimisse kuuluvate vee-ettevõtete tegevuskulude summad (võetud nende kasumiaruannetest) sisaldavad ka kulusid, mis ei ole seotud veeteenuste osutamisega. See võib osaliselt moonutada vee-ettevõtete kohta arvutatud tõhususe näitajate väärtust.

Teise piiranguna tuleb arvestada, et käesoleva doktoritöö võrdlev juhtumiuuring oli avastusliku iseloomuga, mistõttu on sel omad nõrkused. Töö tulemusena väljatoodud valitsemise-tulemuslikkuse mustreid veeteenuste osutamisel võib pidada esialgseteks, mis on joonistunud välja suhteliselt väikese arvu organisatsioonide põhjal. Seetõttu on vaja teostada täiendavaid uuringuid, et valideerida saadud tulemusi suuremas hulgas vee-ettevõtetes. Samas on uuritavate vee-ettevõtete väike arv põhjendatud eesmärgiga luua põhjalikum arusaamine, kuidas valitsemise korraldamine võib mõjutada tulemuslikkust vee-ettevõtetes. Doktoritöös esitatud raamistik analüüsimaks valitsemise korraldamise mõju vee-ettevõtete tulemuslikkusele ei võimalda mõõta valitsemise mõju veeteenuste osutamise tulemuslikkusele, vaid pigem aitab luua arusaamist nende vahelise seose keerukusest, lihtsustades ja süstematiseerides antud valdkonnas esilekerkinud küsimusi. Samuti tuleb märkida, et loodud uurimisraamistik keskendudes valitsemise ja tulemuslikkuse seosele ei hõlma teisi võimalikke vee-ettevõtete tulemuslikkuse mõjureid nende tegevuskeskkonnast.

Kolmandaks tuleb juhtumiuuringuga seonduvalt rõhutada asjaolu, et põhjuslik seos valitsemise ja tulemuslikkuse vahel on kompleksne ja tulemuslikkus ise võib mõjutada valitsemise korraldamist. Veelgi enam, kirjanduses on osundatud erinevatele alternatiivsetele hüpoteetilistele kausaalsustele (nt. seos puudub) valitsemise vormide ja tulemuslikkuse vahel avalikus sektoris. Põhjuslikkuse küsimus omab suurt tähtsust ettevõtte valitsemise ja tulemuslikkuse uuringutes, sest ilma tugeva põhjusliku seoseta puudub alus väita, et valitsemine mõjutab tulemuslikkust, ja mitte vastupidi. Siiski puudub ettevõtte valitsemist käsitlevas kirjanduses konsensus valitsemise ja tulemuslikkuse vahelise põhjusliku seose kohta, jättes selle küsimuse vastamiseks edasiste uuringute teostajatele.

Käesoleva doktoritöö uuringud keskendusid üksikasjalikult vee-ettevõtetele. Kuigi muude avalikke teenuseid osutavate ettevõtete puhul võivad kasutatavad valitsemise mehhanismid mõnevõrra erineda, siis väljapakutud uurimisraamistiku saab kasutada lähtekohana ka uuringutes, mis analüüsivad valitsemise mõju tulemuslikkusele muude avalike teenuste kontekstis. Siiski eeldab loodud valitsemise-tulemuslikkuse raamistik, et kohalikud omavalitsused on delegeerinud avalike teenuste osutamise ettevõtetele, mis peavad arvestama vajadusega saavutada rahalisi ja mitterahalisi eesmärke.

Edasised uuringud võiksid keskenduda sellele, et luua põhjalikumat arusaamist sellest, kuidas kombineerida erinevaid (formaalseid ja mitteformaalseid) valitsemise mehhanisme suunamaks ja kontrollimaks reguleeritud avalikke teenuseid osutavaid ettevõtteid tulemuslikumalt. Võrdlusanalüüsi võiks kaasata ettevõtteid ka teistest Balti riikidest ja Põhjamaadest. Lõpetuseks saab veel ühe uurimissuunana välja tuua, et edaspidi võiks vaadelda tulemuslikkust laiemalt ja pikemas ajaperspektiivis. Vaadeldud varasemate aastate rahaliste ja mitterahaliste tulemusnäitajate asemel tuleks tulemuslikkust hinnata läbi veeteenuse osutajate pikaajalise elujõulisuse ja kohalike omavalitsuste suutlikkuse tagada hea kvaliteediga veeteenuste kättesaadavus tulevastel perioodidel võttes arvesse erinevusi veeteenuste valitsemises.

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