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THE ART OF ALIGNMENT

TRANSACTION COST ECONOMICS AND
THE PROVISION OF PUBLIC SERVICES AT THE LOCAL LEVEL

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THE ART OF ALIGNMENT

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THE PROVISION OF PUBLIC SERVICES AT THE LOCAL LEVEL

PROEFSCHRIFT

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Preface

Looking backwards, the decisive moment in my PhD period has been the summer school of the European School of New Institutional Economics (ESNIE) in 2005 in lovely and sunny Corsica. Here, researchers from many different countries were speaking the same language and working on the same topics. For one week I was immersed in a warm environment full of ideas and fruitful discussions. It was there that, after a period of exploring, searching and reading, my research got a clear focus and all the pieces fell right into place. Since then, I have been working my way towards finishing this book, combining theoretical insights with the practical challenges of a real-world domain.

I can honestly say that I enjoyed doing it and I have many people to thank for this. First of all, I wish to thank Dick Ruiter and Bert Steenge for stimulating me to do a PhD. Having supervised my master thesis, they encouraged me to continue my research efforts and I am grateful they asked me to take part in their joint project on shifts in governance. In the initial phase of my PhD, we formed a reading group NILE in which we explored the common grounds of law and economics. I enjoyed our discussions and joint explorations. Not only in this first period, but also in the period of writing the actual chapters of this thesis they have been important. Dick's attention to detail and English language on the one hand and Bert's attention to the main line of argumentation on the other, have been a fruitful combination. In between these phases they gave me the freedom to conduct the empirical part of my research, but they kept a close watch from a distance.

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I would like to thank John Groenewegen, Andries Nentjes, Bas Denters and Maarten Arentsen, who were willing to take part in the PhD dissertation committee. I owe a special word of thanks to Bas Denters, who in an early stage of my PhD gave me feedback on the research design of my study.

During the years as a student, student-assistant and PhD student in the School of Public Administration (later the School of Management and Governance) I have cooperated and exchanged ideas with many colleagues. I would like to thank in particular my colleagues of the departments of Legal and Economic Governance Studies and of Social Risks and Safety Studies. In addition, I would like to thank the secretaries of both departments, Ria Luschen and Annette van der Tuuk.

I appreciated the many scientific and non-scientific conversations I had during lunch, dinners or drinks, with two special colleagues, Michiel Heldeweg and Gert-Jan Hospers. They both in their own way have been of importance to me. Michiel and I share the same interest in issues of government and market and I hope we will continue our interesting, and above all fun, conversations. Gert-Jan has become a dear friend who always had an interest in my progress and has been important in coming up with the title of this book.

I wish to thank Wim van de Griendt, who has been my room mate during the largest part of my PhD. We started our PhD's around the same time, read the same articles and discussed each others work. Together, we conducted a pilot study on the Holland Metrology Institute, which has been very inspiring for both our theses. I enjoyed our cooperation very much. We both go our separate ways now, but I trust that we will keep in touch on each other's endeavours in work and life.

I thank Joop Wever for crafting the cover of this thesis. I admire his talent for visualizing my research writings into this powerful design.

Fortunately, there was more than work alone during my life as a PhD student. I would like to thank my family and friends for loving me and supporting me and distracting me from my research. I wish to thank Karen in particular for being there for me as a friend. She knew exactly when to ask about my research and when not to ask anything, when to invite me for dinner with her and Anne and when to offer other pleasant distractions from my research. I thank Bart en Teun, my brothers and paranymphs, for believing in me and standing by me. I especially wish to express thanks to my parents for their unconditional love and support. They have always been there for me.

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Enschede, January 2008

Marieke van Genugten

Chapter 1

Introduction

IN THE NOT SO DISTANT PAST, the provision of public services and tasks was a government responsibility, both at local and national levels. Service provision was entrusted to public bureaus or public companies that enjoyed monopoly power. This has changed dramatically since the 1980s. For about three decades now, the provision of public services has been engaged in a process of intensive change, a process which can be seen all over Europe. Privatization has taken place, markets have been opened to competition, and entirely new regulatory regimes and administrations have been created. The consequence is a broad spectrum of public and semi-public regimes through which public services are provided.

In the Netherlands, this process of intensive change is to a large extent a consequence of dissatisfaction with the performance of the government, a growing concern with an ever expanding public sector, and at the same time a strong belief in the efficiency of the market. Since the 1980s successive coalitions in the Netherlands have tried to achieve a smaller public sector. Initially, this was reached by cutbacks. There were, however, limits to the amount and extent of cutbacks that could be realized. Therefore, efforts were made to address the problem alternatively by introducing market competition and privatization. These measures were based on the idea that the private sector and the market are better equipped to operate efficiently. These shifts were also in line with the basic principles of the European Union: free movement of goods, services, capital, and persons. Guided by these principles, the European Union has engaged in regulating markets of, for example, telecommunication, energy, and public transportation. Operational conditions resulting from these principles are laid down in European Directives. The legislative bodies of the members have a duty to comply with these. This has consequences for the provision of public services at both national and local levels.

At present, many changes in the provision of public services have been implemented. At the Dutch national level, one can think of the liberalization of the energy market, the

introduction of market competition in the health care sector, and the autonomization of executive units of central government such as in case of the Dutch Railways. From July 2004 on consumers and small-scale firms can choose from which firm they want to buy electricity. The largest energy consumers were already free to decide from which procurer they would buy electricity. In July 2001 the green electricity market was liberalized followed by the market for middle large firms and other organizations, which had freedom of choice in January 2002. At present, the liberalization of the electricity market is in an advanced stage, including market competition and freedom of choice for all consumers. In the new structure, consumers themselves decide which provider is best for them. The competition between the firms should lead to optimal performance. Furthermore, the government expects market competition to lead to more creativity and innovation. In January 2006, a new health care system was introduced. One of the most important aspects of this new system is that health care insurers have to compete with each other. Changing from one health care insurer to another should stimulate the insurers to demand from the health care providers more efficiency and a better and more patient centered health care. An operation which received much attention is the autonomization of the Dutch railways in 1995. This was a consequence of the government's belief that the Dutch Railways did not work efficiently enough. Furthermore, the European Union demanded the splitting up of infrastructure and exploitation of the railways. In the new structure the government is responsible for the infrastructure, while the exploitation would be handed over to competing private firms. These changes would enable competition on the railways. However, the plans have not been realized as intended. The Dutch Railways still provide almost all public transportation on the railways and the government intervenes by means of price setting.

At the local level, we have seen changes in the Netherlands with regard to, for example, re-employment services, home care and waste collection. In 2002, municipalities were obliged to contract out part of the re-employment services to private firms. Competition between private firms was expected to lead to more efficiency and customer-oriented service provision. As a consequence, the market of private re-employment firms has grown. Since 2006, the 2001 obligation has been dropped, so that municipalities are no longer under a duty to contract out to private firms. They can decide themselves who provides re-employment services, private firms or a municipal service. Market competition was introduced for home care as well. On January 1, 2007 the Social Support Act¹ came into force in all municipalities in the Netherlands. Under the Act, municipalities are responsible for setting up social support. Before the introduction of the Social Support Act, responsibilities were at the national level. The aim of the introduction of the Social

1. In Dutch *Wet maatschappelijke ondersteuning (Wmo)*.

Support Act is to offer an opportunity to improve service provision to citizens and clients. At the same time, municipalities have a duty to put the service provision out to tender. Evaluations of these changes are not yet available, but they have already caused much commotion. Local authorities question the high level of costs involved in the new way of providing home care and consumer organizations and politicians fear for the quality of the care provided, due to the fact that the price is the initial award criterion. The institutional changes in waste collection is of an earlier date. Since the 1980's, especially small municipalities started to contract out the service of waste collection to private firms or have sought cooperation with other municipalities. Large municipalities choose among a variety of *modes of governance*, ranging from contracting out to private firms to in-house provision. This leads to a broad spectrum of public and private providers in waste collection.

Both scientists and politicians paid a great deal of attention to these and other developments of liberalization, deregulation and privatization. From different perspectives and disciplines, divergent and sometimes contradictory analyses were made (Derksen et al., 1999). A complicating circumstance is that some of them are strongly ideological in nature. Two core issues can be observed in the debate. One issue is the level of efficiency that can be and that is actually reached by the institutional changes. Some of the changes described above have not lived up to expectations of efficiency improvements and lower prices for consumers or citizens. For example, the repeated price increases of train tickets. Or, of the many cases in which costs of reforming and costs of monitoring were incurred that had not been taken into account in advance. In general, it can be said that the efficiency of recent institutional changes is difficult to assess (Walsh, 1995). Furthermore, claims that empirical studies find that contracting out leads to higher efficiency are shown to be not valid (Boyne, 1998). The other issue concerns the public interests involved. The Dutch Scientific Council for Government Policy, for example, has addressed the issue of safeguarding the public interest in the context of recent institutional changes (Wetenschappelijke Raad voor het Regeringsbeleid, 2000). The Council considers the question of whether or not the government is fundamentally the institution which should be exclusively responsible for the fulfilment of public tasks. It observes that this is no longer obvious in a period in which privatization and autonomy of government bureaus are important developments. Private organizations, too, are charged with the performance of public tasks and government organizations use private organization models. These changes are sometimes successful and sometimes not. Important in this respect is the way in which the public interest is defined. Van Wijnbergen (2002) discusses the ill-considered manner in which government has sometimes performed privatization and deregulation operations. This manifests itself in an inaccurate way in

which the public interest is defined and the lack of criteria guiding the choice of a fitting organizational form. More generally, the context in which new governance structures have been introduced is important in relation to the relative success of these governance structures.

Summarizing, many changes in the provision of public services have been implemented. These changes include transfer of ownership, introducing or increasing competition or reducing obstacles in the hope of increasing efficiency and encouraging private provision of services that currently are provided by government (Wise, 1990). In this way a large variety of – more rather than less complex – governance structures for the provision of public services have been created. With the institutional changes, governments pursue a more efficient organization and performance of government activities. Yet, governments retain a role in public service provision, since they are dedicated to the task of safeguarding the public interest. This remains an important issue, even when private organizations are charged with the performance of a public task. Both need to be taken into account when analysing institutional changes.

1.1 Public services and public interests

A core concern of government when introducing shifts in governance in the provision of public services is the promotion of public interests. When analysing how to organize – or, which modes of governance to choose with regard to the provision of public services – we have to look at the conditions under which they should be provided. The concept of the public interest has been analysed thoroughly, for example by Pesch (2005). He discusses the way in which the public interest is conceptualized in public administration literature. His highly theoretical study does not yield one specific conceptualization of the term ‘public interest’, but rather provides a variety of meanings ranging from very specific to very broad definitions. The theoretical and undeterminate general treatment of the topic, justifies us to restrict ourselves to the practical discussion in the Netherlands on what the public interest is in this particular country. In the Netherlands two sides can be distinguished in the ongoing discussion on how to identify public interests, to wit the economic and the politico-administrative reality approaches respectively. A report that represents one side of the discussion – the economic approach – is *The public interest calculus* (Teulings et al., 2003). In this report, Teulings et al. (2003) develop a framework for determining what the public interest is and how to manage it. The core of their definition is the notion of complex external effects. They define external effects as the effects of an action on a third party who is not involved in the decision-making on that action. Complex external effects arise when many parties have interests that are affected

	Economic approach to public interests	Public interests in the politico-administrative reality approach
What are public interests?	Public interests are societal interests that the market cannot safeguard (complex external effects)	Public interest is what the political administration calls a public interest
What is decisive for the identification of public interests?	Characteristics and importance of the services delivered and characteristics of market and transaction mechanisms	Characteristics and importance of services delivered and views on roles/responsibilities of governments and capabilities of markets
How do we identify public interests?	Can be established scientifically	Contested standards and contested knowledge
How dynamic are public interests?	Limitedly dynamic	Strongly dynamic

Table 1.1: **Different views on public interests** (on the basis of De Bruin et al. (2004))

by an external effect. According to Teulings et al. (2003), the identification of public interests is the outcome of a scientific analysis of complex external effects.

The opposite side in the discussion – the politico-administrative reality approach – is, for example, represented by a study of the Dutch Scientific Council of Government Policy on safeguarding the public interest (Wetenschappelijke Raad voor het Regeringsbeleid, 2000). Teulings et al. (2003) criticize this study because it leaves aside the question of what the public interest is precisely and only addresses the question of how it can be safeguarded. This approach rests on the idea that the public interest is simply the outcome of the political process and, therefore, needs no abstract specification. De Bruin et al. (2004) and Theeuwes (2004) follow the opinion of the Scientific Council. Both are of the opinion that *The public interest calculus* gives a definition that is too narrow. Furthermore, they reject the statement of Teulings et al. (2003) that the identification of the public interest is the outcome of scientific analysis. De Bruin et al. (2004) observe that public interests are subject to debate and often controversial. Public interests are always relative and unstable, for they require trade-offs and these trade-offs are dynamic. In addition, public interests cannot be operationalized unambiguously. De Bruin et al. (2004) show how the two sides in the debate can be characterized. Their findings are represented in Table 1.1. Pursuant to this comparison, it should be clear that there is no clear definition of the concept and no consensus on how to identify what the public

interests are in a particular situation. Against this background, we shall refrain from defining the concept ‘public interest’. We adopt the approach of De Bruin et al. (2004) as our starting point, which means that we understand the public interest as the result of a political process and take it as given. In addition we will make use of a distinction made by the Dutch Scientific Council of Government Policy (2000) between social interests and public interests. *Social* interests are interests the realization of which is considered to be desirable for society as a whole. A public interest exists when the government takes on itself the task of safeguarding a general interest on the basis of the conviction that this interest will otherwise not be equally well protected (Wetenschappelijke Raad voor het Regeringsbeleid, 2000). With regard to each separate public service, we then have to determine in detail which public interests the government expressly wants to safeguard.

1.2 Governance

The shifts in governance with regard to the provision of public services are often characterized in terms of a movement from government to governance; a movement away from hierarchical political steering by central government to more cooperative forms of governance between public and private actors. Van Kersbergen and van Waarden (2004) observe that society has witnessed many changes in the forms and mechanisms by which institutional and organizational societal sectors and spheres are being governed, as well as in the location from where command, administration, management and control of societal institutions and spheres are being conducted. This point has already been addressed in the above. It indicates that governance is a broader category than government (Van Kersbergen and van Waarden (2004) and Mayntz (1999)). Governance is defined in a variety of different ways in literature and there are even more interpretations of different specific modes of governance. It is crucial to be aware of the diversity of dimensions underlying governance in general and the different modes of governance in particular. It also requires that it be made clear on which dimension(s) we focus and which dimensions are not taken into account. Treib et al. (2005) distinguish between three dimensions: politics, polity and policy. *Politics* relates governance to the political dimension and to the process of policy-making. The crucial criterion for distinguishing different types of governance is thus the relationship between public and private actors in the process of policy-making. This places the concept in the context of terms like interest intermediation or public-private relationships. The *polity* dimension conceives of governance as a system of rules that shapes the actions of social actors. The governance perspective is thus explicitly conceptualized as an institutional one. Different modes of governance situated on a spectrum between the two opposing ideal types of market and

hierarchy. On this spectrum a variety of hybrid modes of governance can be found. The *policy* dimension, finally, defines governance as a mode of political steering. Policies can be distinguished on the basis of their steering instruments. They determine how particular policy goals should be achieved.

We focus on the polity dimension of governance. The shifts in governance we discussed above can be defined in terms of changes in the rules that shape actions of public and private actors. This dimension is related to the idea that societies have generated a variety of institutions to govern economic transactions, to help reduce the costs involved in them and hence to increase the probability of their occurrence. Governments are only one source of such institutions. Others are contracts, commercial businesses, private sector hierarchies, voluntary associations, courts, clans and communities. The general tendency is towards more market and less government. Transaction Cost Economics (TCE) has contributed considerably to the reception of the notion of *governance* both in the private and public spheres (Van Kersbergen and van Waarden (2004) and Mayntz (1999)). TCE interprets governance as organizing transactions in order to economize on transaction costs. It makes use of a comparative institutional analysis. Two propositions are important in that respect. The first is that institutions do matter and the second one is that the determinants of institutions are susceptible to analysis using the tools of economic theory (Matthews, 1986).

TCE was originally developed by Oliver Williamson (1985) with the objective of analysing commercial transactions. It focused on the dichotomy of markets and hierarchies as alternative modes of economic organization. Soon, Williamson's typology was extended to other forms of social ordering, such as clans, networks and long-term contracts. With these extensions the concept of governance was generalized. Recently, Williamson made an effort to extend his framework to the public sector (Williamson, 1999). He was inspired by earlier writings on the meaning of TCE with regard to analysis in the public sector. Moe (1984, 1990), for example, analyses how elements of 'the new economics of organization' can be of interest to political scientists in analysing public bureaucracy. He observes that the perspective helps to structure our thinking about the relative efficiency of alternative organizational arrangements (Moe, 1984), but that the transition from economics to politics is by no means straightforward. After all, the perspective is developed with reference to private organizations, particularly business firms. Therefore, according to Moe, some of its most fundamental components must be modified if its application to public organizations is to be meaningful and instructive. Also Lane (1995) analyses the capacity of new institutional approaches to instruct institutional design in the public sector. He draws attention to the fact that these approaches provide a balance by emphasizing institutions and rules and thus mitigating the strong

orientation towards incentives or self-interests that characterizes the public choice or rational choice approaches. Also, Dixit (1996) shows the importance of TCE. He studies economic policy making through the lens of TCE. His objective is to understand how the combined economic-political system develops mechanisms to cope with the variety of transaction costs that it must face. Frant (1991, 1996) also addresses the question of what policy analysts can learn from the new institutional economics. He argues that the analysis of public-private interactions such as privatization and government contracting, seems to be an area where a new institutional approach is particularly promising. It offers a more sophisticated line of thought by recognizing that the issue of privatization is, in a first approximation, simply the issue of vertical integration: Should a service be ‘made’ or ‘bought’? Obviously, the issue of vertical integration is only the opposition between firm and market that is central in the transaction cost literature (Frant, 1991). Dollery (2001) addresses the question whether the new institutional economics can shed any light on behaviour of parties in non-market or public sector contexts. He observes that TCE can be especially helpful in the analysis of public-private interactions, like privatization and competitive tendering, since TCE goes to the core of these interactions. Also, it can assist in deciding the form of government intervention.

In addition to such explorations of the relevance of TCE for analysis in a public sector context, some authors actually apply the approach to studies of a variety of public services. Donahue (1989) was among the first to accept this challenge. Also Sclar (2000) performed an analysis of public services based on TCE. They both do not engage in formal modeling, but identify salient features of programs that would make them more amenable or less amenable to market provision, and use this framework to explain particular outcomes. Another line of research conducts econometric tests on the basis of TCE (see, for example, Bréchemier and Saussier (2001), Huet and Saussier (2003), Brown and Potoski (2003a, 2003b, 2003c, 2004a, 2004b) and Yvrande-Billon and Ménard (2005)). The main concern of this literature is providing analyses of whether or not TCE can explain choices that are made in the public sector².

Decisions of governments to provide particular public services themselves or to contract them out to external partners can be viewed as *make-or-buy decisions* that are central to the original analyses of commercial transactions. In his study of public and private bureaucracies, Williamson (1999) shows how TCE can be applied to governmental make-or-buy decisions. He offers a framework that can serve as a starting point for our study. In the context of shifts in governance in the public sector TCE’s *discriminating alignment hypothesis* is highly relevant stating that ‘transactions, which differ in their attributes, are aligned with governance structures, which differ in their cost and competence, so

2. In Chapter 3 we go more in-depth into this literature.

as to effect a (mainly) transaction cost economizing result' (Williamson, 1998b, p. 37). This *matching principle*, which was initially coined by Williamson, provides a theoretical approach to analyse recent institutional changes (Ferris and Graddy, 1998), as well as a basis for assessing the relative efficiency of alternative modes of governance. Furthermore, by defining transactions in terms of the public interests involved in providing a public service, we are able to take both efficiency and public interests into account.

1.3 Problem definition

Although there are attempts to apply TCE reasoning to the public sector, within TCE literature and public administration literature taking a transaction cost-based view of governmental privatization decisions, little attention has been paid to extending TCE theoretically to the analysis of the provision of public services. We already mentioned Williamson's own contribution on the subject (Williamson, 1999). He offers a framework that can serve as a starting point for our thesis. There are, however, several problems with his extension. In general, the definition and content of his concepts are not always clear (Ménard (2001) and Masten (1996b)). Furthermore, several other problems can be observed such as the ordering of governance structures and specific characteristics of the public sector (Ruiter, 2005). More specifically, Williamson introduces the hazard of probity as the essence of public sector transacting. Whether this is the case can be questioned. In general, we can observe that it is necessary to enrich TCE to make it suitable for use in systematically comparing the efficiency of governance structures in the *public* sector. Specifically, the concept of the public interest and the spectrum of public governance structures are important elements that deserve attention.

Another issue that needs to be addressed in more detail is the question of whether alignment between governance structures and transactions really matters. The idea that alignment matters is implied by the discriminating alignment hypothesis. The importance of alignment is, however, only broadly assumed but has scarcely been validated (Joskow (1991) Yvrande-Billon and Saussier (2005)). Private sector analysis is often limited to assessing whether the choice for a particular governance structure corresponds to what the theory predicts based on the attributes of the transaction. On this basis, governance choices are determined to be efficient or not. The question is whether this is really the case. This question is even more relevant in the public sector, because in this sector other arguments play a role in determining the choice for a particular governance structure, for example, historical reasons or political arguments. The consequence is the existence of a large variety of public governance structures. According to theory, this variety consists of aligned as well as misaligned modes of governance. Misaligned modes of

governance are expected to lead to an inefficient result in terms of transaction costs and lower performance. The question whether the impact of misaligned modes of governance is as expected, is the core issue of ‘second generation’ TCE research (Yvrande-Billon and Saussier, 2005). Within this line of research some attempts have been made to address this question. These studies are still limited in number and scope, but they do suggest that modes of governance have significant impacts on efficiency and performance. With our study we shall make an attempt to contribute to this line of research. Our contribution will consist of a case study in which we compare a variety of governance structures regarding the provision of a particular public service. These governance structures are all to be found at the local government level, since it is this level that, more than for instance the national level, provides the large variety in institutional arrangements required for a fruitful comparative analysis. The local level offers excellent opportunities to study one type of public service under different (alternative) institutional arrangements. This, therefore, makes it possible to apply the comparative institutional analysis that TCE prescribes in a satisfactory way. And it enables us to analyse whether alignment matters.

A final issue that we shall address in this study is the measurement of transaction costs. Few studies have actually measured transaction costs, since they cannot be easily measured and in some cases, although observable, they cannot be quantified. Examples are studies of Masten et al. (1991) and Brown and Potoski (2004a). We will contribute to these studies by comparing transaction costs of alternative governance structures in a qualitative way. For this analysis, we fall back on Commons (1924 and 1934), an important inspirator for Williamson’s work. As Groenewegen (2006) observes ‘it might be that Williamson should again call upon Commons’. We share his opinion and we use Commons’ concept of *working rules* to make a detailed specification of the types and levels of transaction costs in different public governance structures possible.

The overall aim of this thesis is threefold. Firstly, we will extend TCE – and therefore the matching principle – to the public sector. Secondly, we analyse whether alignment really matters. Thirdly, we aim at developing a framework that will facilitate choice between alternative governance structures in the public sector.

1.4 Research question

The central research question of this thesis is:

What can the discriminating alignment hypothesis, the core of Transaction Cost Economics, contribute to comparative assessments of the efficiency and performance of governance structures at the local public level?

The following subquestions will enable us to address the central question, which forces us to rethink basic conceptualization of the transaction and the governance structure. This is shown in the following subquestions:

1. What are *transactions* in the public sector and what are their characteristics?
2. Which *governance structures* can be distinguished in the public sector and what are their characteristics?
3. What does Transaction Cost Economics teach us regarding the efficiency of governance structures in the public sector attainable by matching characteristics of transactions and governance structures?
4. Does alignment between certain characteristics of public sector transactions and governance structures matter in terms of efficiency and performance?

Questions 1 to 3 are theoretical research questions. Their main focus is the extension of central concepts employed in TCE. These questions will be addressed in Chapters 2, 3 and 4. Questions 1 and 2 are concerned with differences between private and public sectors from the viewpoint of TCE. This is an essential topic that must be addressed, because TCE was originally developed for analysis in the private sector. Applications to the public sector have only been explored recently. We distinguish between two strands of literature, TCE literature and public administration literature taking a transaction cost-based view of governmental privatization decisions. These applications do not always pay much attention to the theoretical issues involved in application to the public sector, but they do provide leads for extending TCE to the public sector. Questions 1 and 2 aim at defining and elaborating the concepts of the transaction and the governance structure in the context of the public sector on the basis of the two strands of literature. Research question 3 is treated in Chapter 4. Based on the original assumptions regarding the discriminating alignment hypothesis in the private sector, we infer when a comparable alignment can be said to exist between public transactions and public governance structures. Research question 4 is theoretical as well as empirical in nature. Based on the central discriminating alignment hypothesis, specific propositions will be formulated on ‘matches’ between transactions and governance structures with regard to one type of public service, namely the service of household waste collection at the local government level. In Chapter 7 we compare alternative governance structures for the provision of household waste collection by specifying their levels of transaction costs and performances. This will be done in the form of a case study research, which is conducted to provide answers to the question of whether alignments between transactions and governance structures actually lead to higher efficiency and lower performance than misalignments between the two. To that

end, we make an attempt to measure the levels and types of transaction costs and the levels of performance under a variety of governance structures. We choose to compare transaction costs in a qualitative way, since transaction costs cannot be easily measured and in some cases, although observable, they can only be quantified with great difficulty. For this analysis, we fall back on Commons (1924 and 1934), an important inspirator for Williamson's work. Commons' concept of *working rules* enables a detailed specification of the types and levels of transaction costs in different public governance structures. The overall aim of the case study is to assess the usefulness and appropriateness of the proposed theoretical framework in a specific case at the local government level.

1.5 Scientific and social relevance

This thesis aims at being both scientifically and socially relevant. The scientific relevance that we aim at lies in the application of TCE to the public sector. As discussed in the previous section, there already have been some attempts to apply TCE to the public sector. However, the matching theoretical extension of TCE is not yet fully developed. To warrant a fruitful application in the new field, it is necessary to extend the theory so the specific characteristics of the public sector can be duly taken into account. In this thesis, we aim to contribute to such an extension.

This is also relevant from a different point of view because, as Weingast and Marshall (1988, p. 136) state, 'developing a general theory of organizations requires effectively applying this theory of organizations to types of organizations beyond those included in the set studied to generate it'. The possibility of application to public sector organizations, therefore, constitutes an essential contribution to the further development of the theory. In this thesis we take up this challenge by showing how this approach can explain phenomena that take place in the provision of public services.

Furthermore, we aim at determining whether alignment between governance structures and transactions matters. Until now, the importance of alignment is assumed rather than proven. With this thesis we take part in 'second generation TCE research' which analyses the relation between alignment and efficiency and performance of governance structures free from preconceived ideas.

The social relevance can be found in the analysis of alternative institutional arrangements at the local government level. The general tendency of these changes is towards more market and less government. New institutional arrangements are being generally implemented in the expectation that they will perform more efficiently. The question is whether this really is the case, especially when not only production costs are taken into account, but also transaction costs. Furthermore, the social relevance can be found in

the hope that the choice between alternative governance structures in the public sector will be made less difficult.

1.6 Outline of this thesis

The outline of this thesis is as follows. In Chapter 2 we describe the basic notions of Transaction Cost Economics (TCE), the limitations of TCE and empirical results of transaction cost analysis. In Chapter 3 we discuss two lines of literature in which TCE is applied to the public sector. One line of literature is located within TCE research. The other line of literature can be found within public administration research. Both lines of literature have inspired us to extend the core elements of the theory: transactions and governance structures. An elaboration of these concepts is given in Chapter 4. We describe how TCE should be extended to make it possible to conduct comparative institutional analyses on public governance structures. We discuss the two core elements: public sector transactions and public sector governance structures. In addition we formulate expectations on alignment and misalignment in the public sector. In Chapter 5 we make the step from theory to empirical analysis. In this chapter we discuss our research design. In this chapter we also pay attention to the way in which the efficiency and performance of the provision of household waste is assessed and compared. In Chapter 6 and 7 we present the results of our empirical study. In Chapter 6 we give a detailed description of the mechanisms and processes of the governance structures in the different municipalities. In Chapter 7 we confront the empirical results with the theory. Finally, in Chapter 8, we present the conclusions of our research. The research question will be answered and we will reflect on our findings.

Chapter 2

Transaction Cost Economics

TRANSACTION COST ECONOMICS (TCE) is situated in the research tradition of the new institutional economics. The new institutional economics is generally seen as a reaction to the old institutional economists, such as Thorstein Veblen, John R. Commons, and Wesley C. Mitchell. The old institutional economists were viewed as often a-theoretical. This characterization is probably due to a failure of the old institutionalists to reach any basic consensus, let alone fully develop, a commonly accepted systematic theoretical core (Hodgson, 1998). This does not mean, however, that they wholly neglected crucial theoretical issues. The primary reasons for the failure of institutionalism probably lie in a combination of historical shifts in the social sciences in the direction of a stricter theoretical approach and the rise of the mathematically inclined style of neoclassical economics. In comparison, the old institutionalism was by later generations regarded as insufficiently rigorous, and thus inferior to the new approaches (Hodgson, 1998). Like its predecessor, the new institutional economics is interested in the social, economic and political institutions governing everyday life. However, it avoids the holism of the older school (Klein, 2000). Despite analytical and policy differences, the old and the new institutional economic approaches share a number of basic presumptions. Nowadays, we perceive a dialogue between new and old institutional economics and a common and widespread interest in institutions. Later in this thesis, we will build on this dialogue by including in our analysis insights of John R. Commons. However, we shall commence by describing what new institutional economics and TCE are about.

The objective of the new institutional economics is to explain what institutions are, how they emerge and evolve, what purposes they serve, how they change and how they perform (Klein, 2000). The new institutional economics drops the standard neoclassical assumptions that individuals have perfect information and unbounded rationality and that transactions are costless. Instead, it assumes that individuals have incomplete in-

formation and because of this face uncertainty about future events and outcomes and incur transaction costs to acquire the required information (Ménard and Shirley, 2005). The explanatory direction is from individuals to institutions, taking individuals as given. An approach that takes its points of departure in human beings is termed methodological individualism¹. As stated in the introduction, new institutional economics rests on two propositions: i. institutions matter and ii. they are susceptible to analysis by the tools of economic theory (Matthews, 1986). Institutions are created to reduce risk and transaction costs and to control the environment (Ménard and Shirley, 2005). There is not one clear definition of the concept *institution*. Some authors use a strict definition, defining institutions as the legal system (Nentjes, 2004), while others, as Nelson and Sampat (2001) in their extensive survey describe, use a broader definition encompassing also informal rules. Examples of such definitions are (North, 1994, p. 360):

Institutions are the humanly devised constraints that structure human interaction. They are made up of formal constraints (e.g. rules, laws, constitutions), informal constraints (e.g. norms of behaviour, conventions, self-imposed codes of conduct), and their enforcement characteristics. Together they define the incentive structure of societies and specifically economies.

and (Ménard, 1995, p. 167):

An institution is manifested in a long-standing historically determined set of stable, abstract and impersonal rules, crystallized in traditions, customs, or laws, to implement and enforce patterns of behavior governing the relationships between separate social constituencies.

In most definitions, institutions encompass not only organizations – such as corporations, banks, and universities – but also social entities such as money, language, and the law. The case for a broad definition of institutions is that all such entities involve common characteristics (Hodgson, 1998, p. 179):

- All institutions involve the interaction of agents, with crucial information feedbacks.
- All institutions rest on common conceptions and include persistent routines.
- Institutions sustain, and are supported by, shared conceptions and expectations.
- Although they are neither immutable nor immortal, institutions have relatively durable, self-reinforcing, and persistent qualities.

1. Hodgson (2007) recently criticized the use of this term because of the lack of a precise definition and crucial ambiguities in the use of it.

- Institutions incorporate values, and processes of normative evaluation. In particular, institutions reinforce their own moral legitimation: that which endures is often seen as morally just.

Attention can be directed towards different levels of institutional analysis. Therefore, it is generally useful to make a distinction between an institutional environment on the one hand and institutional arrangements on the other (Davis and North (1970) and Klein (2000)). The *institutional environment* refers to the general background constraints, or 'rules of the game'. It is a set of fundamental political, social and legal ground rules that govern economic and political activity. These rules are formal, explicit rules (constitutions, laws). The broad structures observed are partly the products of evolutionary processes, but design is also possible. *Institutional arrangements*, by contrast, are specific guidelines designed by trading partners to support their particular (economic) relationship, and more specifically, the ways in which they can cooperate or compete. Governance of contractual relationships is the main focus of analysis. The arrangements can be formal or informal, they can involve an organization or not, and they can be temporary or long lived (Davis and North, 1970). To this distinction, Williamson (2000) adds two more levels of institutional analysis. One level is the *social embeddedness* level – the highest level of institutional analysis. The rules at this level are informal, often implicit rules (such as norms, customs, traditions). While these background rules evolve from the goals, beliefs and choices of individual actors, they are not consciously designed. Institutions at this level change very slowly. The other level – and lowest level of institutional analysis – is the level of *resource allocation and employment* which is the core of neo-classical analysis. Agency theory with its emphasis on ex ante incentive alignment and efficient risk bearing can also be located at this level. In Figure 2.1, these four levels of institutional analysis are shown. They differ in the frequency of change and the purpose of the institutions. Furthermore, higher levels impose constraints on the level immediately below, while lower levels signal feedback to higher levels (Williamson, 2000). TCE focuses on the level of institutional arrangements – or, governance structures (Level 3 in Figure 2.1). At this level of institutional analysis economizing means 'get the governance structure right' (Williamson, 2000, p. 597). The remainder of this chapter will be devoted to this type of institutional analysis.

2.1 TCE's founding father

The founding father of TCE is incontestably Oliver Williamson, but quite evidently he has been inspired by predecessors. With his work, Williamson particularly builds on the work of Coase (1937). Ronald Coase could be said to have provided the general founda-

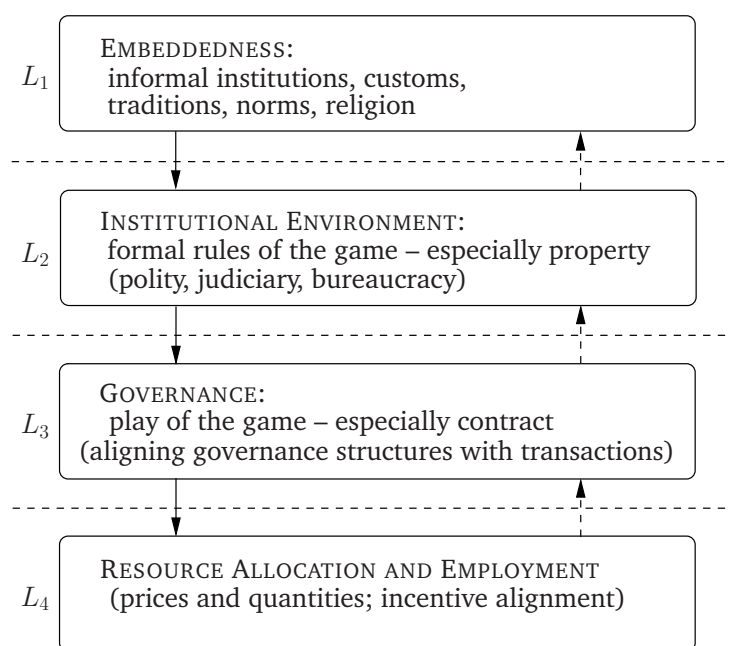


Figure 2.1: **Four levels of institutional analysis** (Williamson, 2000, p. 597)

tion of TCE. Rather than take the organization of economic activity in firms and markets as preexisting, defined largely by technology, Coase describes firms and markets as alternative means for doing the very same thing (Williamson, 1998a). Coase objects to the idea of a perfect economy, in which no uncertainty and no transaction costs occur. Coase concludes on the basis of the following analysis that no such perfect economy exists. First, he addresses the question why, if apparently the perfect coordination mechanism available is the price mechanism, organization is needed at all. As he puts it (Coase, 1937, p. 388):

having regard to the fact that if production is regulated by price movements, production could be carried on without any organization at all, well might we ask, why is there any organization?

His aim is to bridge the gap in economic theory between the assumption that allocation takes place by means of the price mechanism and the assumption that allocation depends on an entrepreneur. Coase draws the conclusion that the price mechanism does not operate free of charge but involves costs. These are costs of finding out the relevant prices and costs of negotiating. Also, there are other costs of the price mechanism, such as the costs of drawing up contracts and the risk of unexpected behaviour of contracting partners. To summarize, the market involves costs. By forming a firm to manage resources, such costs can be saved.

Next, Coase raises the question how to define the firm. He states that contracts are not only relevant on the market but also within the firm. However, the amount of required contracts is dramatically diminished. Whole series of contracts necessary on the market, are replaced by one single contract that takes the form of a firm. A firm is a system of contractual relationships that exists when the direction of production factors depends on an entrepreneur. The opposite question, then, becomes (Coase, 1937, p. 394):

why, if by organizing one can eliminate certain costs and in fact reduce the cost of production, are there any market transactions at all? Why is not all production carried on by one big firm?

The answer to this question is that at some point it is no longer profitable to produce within a firm, for production within such a firm also involves its own costs. The firm will not grow further if the costs of organizing an additional transaction in the firm equals the costs of transacting on the market or the costs of organizing within a different firm. Summarizing, Coase (1937, p. 404) states:

the principle of marginalism works smoothly. The question always is, will it pay to bring an extra exchange transaction under the organizing authority.

Oliver Williamson (1985) builds on Coase's analysis by providing a framework on the basis of which the choice between the market and the firm can be made. In addition he introduces hybrid modes of governance situated between the market and the firm. More generally, he maintains that any problem that can be formulated as a contracting problem can be analysed in transaction cost economizing terms (Williamson, 1998b). The development from the study of the dichotomy of market and hierarchy to the study of all modes of governance is represented in three works of Williamson in different stages of his scientific career. In *Markets and Hierarchies* (1975), Williamson mainly pays attention to the choice between market and hierarchy. In *The Economic Institutions of Capitalism* (1985) he shows a broader application of TCE to markets, hierarchies and hybrid forms of governance. In *The Mechanisms of Governance* (1996), finally, he extends the comparative analysis of economic organization and pays attention to the wide array of possible applications of TCE. To that end, complex economic organizations have to be studied from a combined legal, economical, and organizational perspective in which hazard mitigation through the mechanisms of governance has a prominent place. Here, the initial step towards modes of governance in the public sphere is made.

2.2 Behavioural assumptions

Williamson (1985) starts his analysis by describing two main behavioural assumptions. He follows Coase's (1984, p. 231) idea that the new institutional economics should study 'man as he is'. Williamson (1985, p. 44) states:

Transaction cost economics characterizes human nature as we know it by reference to bounded rationality and opportunism. The first acknowledges limits on cognitive competence. The second substitutes subtle for simple self-interest seeking.

Bounded rationality is a semistrong form of rationality in which economic actors are assumed to be 'intendedly rational, but only limitedly so'. With this definition, Williamson follows Herbert Simon (1978). Bounded rationality refers to the limited ability of individuals to receive or process information and to communicate this. Individuals are not capable of handling large amounts of information, which makes it difficult to foresee all contingencies in a complex and changing environment. 'The crucial importance of bounded rationality for economic organization resides in the fact that all complex contracts are unavoidably incomplete' (Williamson, 1998b, p. 30–31). Williamson observes that taking into account limited rationality requires a renewed study of both market and nonmarket forms of organization. In this respect, the question is 'how do the parties organize so as to utilize their limited competence to best advantage?' (Williamson, 1985, 46). Confronted with the realities of bounded rationality, the costs of planning, adapting, and monitoring transactions need to be considered.

The second feature of human actors, *opportunism*, refers to seeking self-interest with guile. This includes mainly forms of subtle deceit, but also forms of gross deceit, such as lying, stealing, and cheating (Williamson, 1985). More generally, opportunism refers to incomplete information or distorted disclosure of information, especially to calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse. Opportunism encompasses active and passive forms of deceit as well as *ex ante* and *ex post* types of opportunism. Williamson does not argue that actors always behave opportunistically and always to the same degree, but he argues that opponent parties should take it into account and devise *ex ante* safeguards. Safeguards are defined as 'the added security features, that are introduced into a contract in order to reduce hazards and to create confidence' (Williamson, 1996, p. 379). What should be noted here is that whereas bounded rationality is a highly realistic assumption pertaining to all contractors in complex environments, opportunism should be interpreted as a prudential assumption. Opportunism is not found in all contracting parties, but since it is impossible to know a priori whether a particular contractor will behave opportunistically or not, organizations should operate

with prudence to protect their own interests as well as those of their other stakeholders (Heugens et al., 2004, p. 249). ‘Parties to a contract who look ahead, recognize potential hazards, work out the contractual ramifications and fold these into the ex ante contractual agreement obviously enjoy advantages over those who are myopic or take their chances’ (Williamson, 2000, p. 601).

The two behavioural assumptions of bounded rationality and opportunism are important for the rest of Williamson’s line of reasoning. They form the starting point of his analysis.

2.3 Basic notions

TCE studies the way in which contracting partners protect themselves against *hazards* that are inherent in exchange relationships. All hazards can be attributed to the two behavioural assumptions of TCE: bounded rationality and opportunism. The way in which protection is established is by designing and organizing appropriate governance structures. The suitability of a specific governance structure depends on the characteristics of the exchange relationship and is related to the extent to which transaction costs can be reduced. In this way, TCE is interpreted as a study of alternative institutions of governance (Shelanski and Klein, 1995). Governance structures then are the rules that govern a relationship between trading partners. Some governance structures lend themselves better to regulating specific exchange relationships than others. TCE originally focuses on the level of institutional arrangements or governance structures in the *private sphere*, in other words, commercial transactions.

The main choice that has to be made is formulated in terms of the *make-or-buy decision* (Williamson, 2000). The question is whether an entrepreneur should ‘make’ the next stage (or part) of a good himself or let it make by another entrepreneur and then ‘buy’ it from him. This means that a choice has to be made whether successive stages should be separated or unified. If stages are independent, each stage appropriates its net returns. This involves high-powered incentives to efficiency. However, during the execution of the contract adaptability problems can arise. In other words, problems can arise because the entrepreneur does not have full control over the next stage. If stages are unified, successive stages are coordinated by hierarchical control and authority. In such conditions, incentives tend to be lower-powered and bureaucratic costs can arise, but certain adaptability problems are avoided. In some cases vertical integration (‘make’) is the most suitable form. In other cases the most suitable governance structure is either a spot market or a long-term contractual relationship (‘buy’). The make-or-buy decision suggests that the choice is dichotomous, but it will be clear that make and buy can

take many forms. These forms are called governance structures and can be defined as complexes of elements that have strong and weak sides. TCE rests on the thesis that different governance structures differ in incentive intensity, administrative control and contract law. The emphasis lies on the study of means to achieve reliable agreements in contracts and to avoid ex post contest and conflict. These issues show that in TCE ownership, incentive alignment, and ex post support institutions all matter (Williamson, 1985, p. 29).

The make-or-buy decision can also be defined in terms of a shift from market to hierarchy, which is a move from simple to complex governance. Williamson (1979, p. 239) observes:

That simple governance structures should be used in conjunction with simple contractual relations and complex governance structures reserved for complex relations seems generally sensible. Use of a complex structure to govern a simple relation is apt to incur unneeded costs, and use of a simple structure for a complex transaction invites strain.

The general movement from simple to complex governance is shown in the sequence of moves shown in Figure 2.2. Node A corresponds to the ‘ideal’ transaction in law and economics in which there is an absence of dependency and hazards ($k = 0$). In this case autonomous adaptation suffices, while added safeguards are unnecessary ($s = 0$). Nodes B, C and D are transactions for which specific investments are made ($k > 0$). As a consequence hazards occur. Node B reflects the absence of safeguards, which causes suppliers to attach a risk premium to Node B. Nodes C and D are nodes to which safeguards are added to mitigate the hazards ($s > 0$), either in the form of contractual safeguards (Node C) or by internalizing the hazards through vertical integration, the firm (Node D).

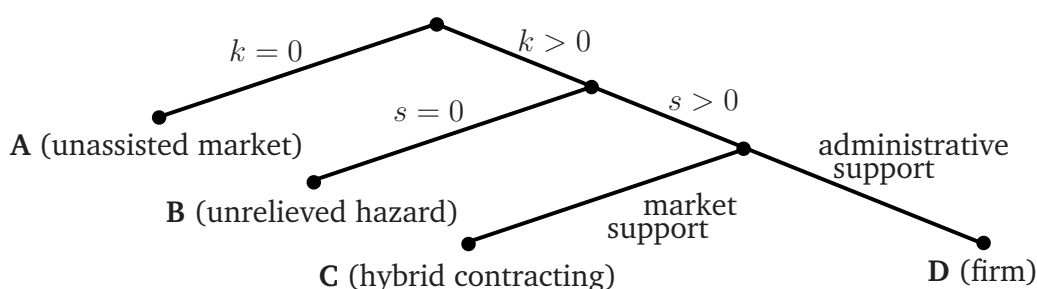


Figure 2.2: **Simple contracting schema** (where k denotes contractual hazards and s denotes safeguards) (Williamson, 1999, p. 314)

TCE is a microanalytical approach where the emphasis is on transactions and the minimization of transaction costs. In that respect, the core of the analysis consists of weighing costs of planning, adaptability, and monitoring of an activity under alternative governance structures. TCE's basic proposition is that economic institutions are created to economize on transaction costs (Williamson, 1985, p. 17). Williamson makes clear that this can be the main aim, but that it is not the only one. Complex institutions serve a variety of aims. The importance of serving the aim of efficiency is, however, great. In that respect, the minimization of transaction costs is of central interest.

Central to the exercise is the identification, explication, and mitigation of *contractual hazards* – which take many forms (Williamson, 1996, p. 3). This represents the crucial first step in the analysis. Secondly, the microanalytic attributes for describing transactions have to be delimited. Those attributes, which involve hazards resulting from bounded rationality and opportunism, constitute the relevant subset. Thirdly, the feasibility and efficacy with which governance structures tend to mitigate hazards relate directly to bounded rationality and opportunism. In the subsequent parts of this section we discuss the concepts of transactions, institutional arrangements and transaction costs more in-depth.

2.3.1 Transaction as unit of analysis

The core of the transaction concept is the exchange of a good or a service. Williamson refers to Commons when he says that the transaction is the basic unit of analysis (1998b, p. 36).

According to John R. Commons, 'the ultimate unit of activity... must contain in itself the three principles of conflict, mutuality and order. This unit is the transaction.' Not only does transaction cost economics subscribe to the idea that the transaction is the basic unit of analysis, but the threefold principles to which Commons refers - conflict, mutuality, order - are very much what governance is all about.

Commons (1934, p. 58) defines the transaction as 'alienation and acquisition between individuals of the rights of future ownership'. This definition deals with the transfer of resources in a legal sense (Furubotn and Richter, 2005). Williamson defines the transaction as follows (1981, p. 552):

A transaction occurs when a good or service is transferred across a technologically separable interface. One stage of activity terminates and another begins. With a well-working interface, as with a well-working machine, these transfers occur smoothly. In mechanical systems we look for frictions: do the gears

mesh, are the parts lubricated, is there needless slippage or other loss of energy? The economic counterpart of friction is transaction cost: do the parties to the exchange operate harmoniously, or are there frequent misunderstandings and conflicts that lead to delays, breakdowns, and other malfunctions?

According to this interpretation, the term is restricted to situations in which resources are actually transferred in the physical sense of delivery (Furubotn and Richter, 2005). Such delivery can occur across markets, within hybrid modes of governance or within firms. Here, it is useful to distinguish between two time points. Ruiter (2005) defines the transaction as encompassing the time point of reaching mutual assent on an exchange and the time point of performing the act of exchanging. Ruiter (2005, p. 290) puts it as follows:

Any transaction rests, analytically, on two bilateral acts, namely, (i) the act of expressing mutual assent to exchange, and (ii) the act of exchanging. The difference between discrete and relational contracts is that in the case of discrete contracts mutual assent to exchange is brought to expression *in* the act of exchanging, whereas in the case of relational contracts mutual assent to exchange is expressed *separately from* subsequent acts of exchanging.

The mutual assent leads to a governance structure. This can be a discrete contract (i.e. the market), a relational contract (i.e. hybrid), or a firm. The act of exchanging then is the 'transfer across a technologically separable interface'.

A transaction is distinguishable as unit of analysis when the principal dimensions in which transactions differ can be identified. After all, TCE assumes that there are rational economic reasons to organize some transactions in a particular way and other transactions in a different way. Williamson identifies three characteristics of commercial transactions, which are asset specificity, uncertainty and frequency. *Asset specificity* refers to the specific knowledge or specific technical skills that are necessary with regard to a certain good or service. Specific assets can often not be used alternatively. Even if this is possible, investments in such assets are risky, because the assets cannot be redeployed without sacrifice of productive value if contracts are interrupted or prematurely terminated (Williamson, 1985, p. 54). Consequently, a high bilateral dependency exists between partners. Summarizing, Williamson (1985, p. 55) observes that

(1) asset specificity refers to durable investments that are undertaken in support of particular transactions, the opportunity cost of which investments is much lower in best alternative uses or by alternative users should the original transaction be prematurely terminated, and (2) the specific identity of the parties to a transaction plainly matters in these circumstance, which is

to say that continuity of the relationship is valued, whence (3) contractual and organizational safeguards arise in support of transactions of this kind, which safeguards are unneeded (would be the source of avoidable costs) for transactions of the more familiar neoclassical (nonspecific) variety.

Williamson distinguishes between six types of asset specificity: (i) site specificity, which arises when successive stages are located in close proximity to one another; once sited, the assets in place are highly immobile, (ii) physical asset specificity, which is attributable to physical specialized features or equipment to serve some particular exchange relationship, (iii) human asset specificity: investments in specialized explicit and implicit knowledge and procedures requiring know-how and learning-by-doing, (iv) dedicated assets: high-capacity equipment which capacity is intended to be dedicated to a particular customer, (v) brand-name capital: brand names which imply a particular measure of quality or other product characteristics) (vi) temporal specificity: timing of delivery and its effect on product value (Williamson, 1991a). *Uncertainty* refers to both environmental uncertainty and behavioural uncertainty. Environmental uncertainty refers to unanticipated changes in circumstances surrounding an exchange. This can either refer to the unpredictable nature of the external environment or the complexity of the environment. Behavioural uncertainty is related to ex post opportunistic behaviour of one of the partners in an exchange relationship. It can also be the result of a lack of information about expected future developments. An increase in uncertainty is of little consequence for transactions that are nonspecific. However, when assets are specific in a nontrivial degree, increasing the degree of uncertainty makes it more imperative that the parties devise safeguards. The third characteristic is the *frequency* with which transactions of a certain kind take place. Sometimes a transaction takes place only once. In that event, high transaction costs are not to be expected and, therefore, additional safeguards are not justified. However, when trading partners often exchange services and transactions are of recurrent nature, a long-term contract will be instrumental in avoiding frequently returning negotiations over specific transactions.

2.3.2 Alternative institutional arrangements

An institutional arrangement is the contractual relationship or governance structure between economic entities that defines the way in which they cooperate and/or compete (Williamson, 1996). Williamson (1985, p. 68) observes that ‘contractual variety is the source of numerous puzzles’. As Williamson makes clear, TCE is not only applicable to markets and hierarchies, but to the whole range of intermediate contracts and other governance structures. As already formulated in Section 2.1, he maintains that any prob-

lem that can be formulated as a contracting problem can be analysed in transaction cost economizing terms.

Williamson views *governance structures* as discrete alternatives. They differ in the safeguards that are introduced. Safeguards are the added security features that are introduced into a contract in order to reduce hazards and to create confidence. Safeguards can take the form of penalties, a reduction in incentive intensity and/or the private ordering apparatus to deal with contingencies (Williamson, 1996). The central features that characterize governance structures are administrative controls, incentive intensity and contract law (Williamson, 1991a). *Administrative controls* refer to instruments of monitoring and accountability. More specifically, it refers to the support staff responsible for developing plans, collecting and processing information, operationalizing and implementing executive decisions, auditing performance, and more generally, providing direction to the divisions of a hierarchical firm (Williamson, 1996). *Incentive intensity* is 'a measure of the degree to which a party reliably appropriates the net receipts (which could be negative) associated with its efforts and decisions. High-powered incentives will apply if a party has a clear entitlement to and can establish the magnitude of its net receipts easily. Lower-powered incentives will apply if the net receipts are pooled and/or if the magnitude is difficult to ascertain' (Williamson, 1996, p. 378). *Contract law* is defined on the basis of a terminology introduced by Macneil (1978) who identifies classical, neoclassical and relational categories of contract law. Williamson distinguishes between classical contract law (or dispute resolution by court), neoclassical contract law (or dispute settling by arbitration) and forbearance (or internal dispute settling). In classical contract law the emphasis is on legal rules, formal documents, and self-liquidating transactions (Williamson, 1979). Contract law is interpreted in a legalistic way: when disputes arise between formal and less formal features, formal terms have the upper hand. Moreover, the rules of contract law are strictly applied to hard bargaining (Williamson, 1991a). Neoclassical contract law frees parties from strict enforcement. Flexibility is woven into contracts of this kind or gaps are consciously left open in the planning, later to be filled in as needed. Neoclassical contract i. contemplates unanticipated disturbances requiring adaptation, ii. provides a tolerance zone within which bad performance will be absorbed, iii. requires information disclosure and substantiation if adaptation is proposed, and iv. provides for arbitration if a voluntary agreement fails (Williamson, 1991a). Forbearance is the implicit contract law of internal organization. Parties must resolve their differences internally. Each mode of governance is supported by a different specific form of contract law.

Variations in these characteristics lead to a spectrum of governance structures (Table 2.1). Williamson develops a spectrum with three types of governance structures,

	Market	Hybrid	Hierarchy
Instruments			
Incentives	++	+	0
Administrative controls	0	+	++
Performance attributes			
Autonomous adaptation	++	+	0
Coordinative adaptation	0	+	++
Contract law	++	+	0

Table 2.1: **Distinguishing attributes of market, hybrid and hierarchy** (where ++ denotes a strong, + denotes a semi-strong and 0 denotes a weak presence) (Williamson, 1991a, p. 281)

namely the spot market, hybrid forms (bilateral or trilateral governance) and the firm (unilateral governance). On the one extreme, the *spot market* can be defined as ‘a specific institutional arrangement consisting of rules and conventions that make possible a large number of voluntary transfers of property rights on a regular basis, these reversible transfers being implemented and enforced through a specific mechanism of regulation, the competitive price system’ (Ménard, 1995, p. 170). The spot market scores high on incentive intensity and low on administrative control, while dispute resolution takes place on the basis of classical contract law. Adaptation in this mode of governance, can be characterized as highly autonomous. The spot market is the arena in which autonomous parties engage in exchange. In markets there are large numbers of buyers and sellers on each side of the transaction. The identity of parties is irrelevant, because each can go its own way at negligible cost to the other. On the other extreme, *hierarchy* can be defined as ‘an institutional arrangement designed to make possible the conscious and deliberate coordination of activities within identifiable boundaries, in which members associate on a regular basis through a set of implicit and explicit agreements, commit themselves to collective actions for the purpose of creating and allocating resources and capabilities by a combination of command and cooperation’ (Ménard, 1995, p. 172). Hierarchy scores low on incentive intensity and high on administrative control, while disputes are settled internally. A hierarchy exists when transactions are placed under the control of unified ownership (buyer and supplier are in the same firm) and subject to administrative control (in terms of authority, including fiat). Adaptation in this mode of governance, can be characterized as highly coordinative. In between are the *hybrids* with characteristics of both governance structures. Contract law of hybrids is neoclassical in character. Hybrids are long-term contractual relationships that preserve autonomy but provide additional

safeguards because parties to the contract are bilaterally dependent. Therefore, this mode of governance is characterized by average levels of autonomous and coordinative adaptation.

2.3.3 Transaction costs

In TCE efficiency is defined in terms of a *transaction cost economizing result*. This is reached by minimizing transaction costs. Transaction costs are the costs that partners have to incur in exchange relationships or, in other words, the costs of running the economic system (Arrow, 1969). They are the ‘comparative costs of planning, adapting, and monitoring task completion under alternative governance structures’ (Williamson, 1989, p. 142). The costs of transacting as defined here include such items as losses from not effecting exchanges as a result of the high cost of agreeing on terms. The fundamental idea underlying the concept of transaction costs is that they represent the sacrifices involved in arranging a contract *ex ante*, and monitoring and enforcing it *ex post*, as opposed to production costs, which are the sacrifices involved in executing the contract. The objective of the economic agent is not to minimize transaction costs as such, but to economize on the sum of production costs and transaction costs (Williamson, 1979).

Williamson distinguishes between *ex ante* and *ex post* transaction costs (1985, p. 388). *Ex ante* transaction costs are costs that partners make before a transaction is actually performed. These are costs of drafting, negotiating and safeguarding agreements. Also costs of collecting information are important (for example on the relevant prices and the reliability of the contracting partner). An essential dimension of TCE is the emphasis on *ex post* costs. Herewith, TCE turns its attention to the *ex post* stage of the contract (Williamson, 2000). *Ex post* transaction costs are costs that are made after the agreement has been reached. They include the setup and running costs of the governance structure charged with the task of monitoring observance of the agreement and the governance structure by which disputes are settled, the costs of maladaptation and adjustment that arise when contract execution is misaligned as a result of gaps, errors, omissions, and unanticipated disturbances, and costs of effecting secure commitments.

The central meaning of efficiency within TCE, therefore, is transaction efficiency: the extent to which institutions are tuned to the relevant environment (Van Leerdam, 1999, p. 78).

2.4 Discriminating alignment hypothesis

The central hypothesis underlying TCE is that contracting partners choose organizational arrangements to minimize transaction costs. This hypothesis is termed *discriminating alignment hypothesis* and expresses a matching principle Williamson himself formulates as follows (Williamson, 1998b, p. 37):

transactions, which differ in their attributes, are aligned with governance structures, which differ in their cost and competence, so as to effect a (mainly) transaction cost economizing result.

Characteristics of the transaction should ideally match characteristics of the governance structure. The analysis is comparative in nature. ‘That is, a general recognition that there is a wide range of institutional arrangements that can be used to govern transactions between economic agents. Specific institutional arrangements emerge in response to various transactional considerations in order to minimize the total cost of making transactions’ (Joskow, 1988, p. 97). Costs of a specific mode of governance are always examined in relation to alternative feasible modes (Williamson, 1996). This comparative approach mitigates the problem of the measurement of transaction costs. As a starting point of analysis, the question of whether a feasible alternative can be envisioned for the real situation studied, must be answered in a positive sense, for it is useless to compare real situations with all kinds of imaginary optimal situations (Coase, 1964, p. 195):

Contemplation of an optimal system can provide techniques of analysis that would otherwise have been missed and, in certain special cases, it can go far to providing a solution. But in general its influence has been pernicious. It has directed economists’ attention away from the main question, which is how alternative arrangements will actually work in practice. It has led economists to derive conclusions for economics policy from a study of an abstract of a market situation. [...] Until we realize that we are choosing between social arrangements which are all more or less failures, we are not likely to make much headway.

The focus of attention is on the actual working of alternative arrangements (Coase, 1964, p. 195):

[W]hat we are normally concerned with are social arrangements and what is economically relevant is how the allocation and use of factors of production will change with a change in social arrangements. There is little that we can learn about this from a study of theoretical optimal systems.

The most significant objection to a concrete comparative approach of this kind is that its conditions of application are often not realized or even not realizable in our world. Coase (1964) counters this objection with the rhetorical question of whether there really is another possibility. The only solace he has is his belief that by a detailed study of an industry or organization it is possible to gain sufficient understanding of how it operates to be able to say how its performance would be affected by changes in circumstances; consider, for example, the introduction of a particular form of regulation. Coase thinks that to study other industries or organizations which have been subject to similar regulations can enlarge our understanding and be of help in forming a comparative judgement. What is needed is an act of imaginative reconstruction. This must, however, be based on detailed knowledge and such knowledge can only come slowly as the result of the work of many scholars over many years. Williamson (1999) builds on this idea and introduces the *remediableness criterion* for assessing efficiency. This criterion stipulates that (1999, p. 316):

an extant mode of organization for which no superior feasible alternative can be described and implemented with expected net gains is presumed to be efficient.

Only feasible alternatives not hypothetical ones, should be taken into account in the comparative analysis. Such an analysis must include the following stages. Firstly, the principal dimensions of a particular transaction are identified. Secondly, the features of the feasible alternative governance structures are determined. Thirdly, an assessment takes place of whether a match exists between the features of the transaction and those of the governance structure. All in all, the following hypotheses are formulated for specific levels of asset specificity, uncertainty and frequency (Williamson (1985, 1979) and David and Han (2004)).

1. When asset specificity is low, the market mode is the most efficient mode of governance. In this case contracting partners have enough alternatives to punish deviant behaviour without making high costs. In case of a standardized product there are many suppliers that can provide the same level of quality and there are many buyers. After being cheated by one party, one can easily choose another contracting partner. The market provides efficient allocation and no authority is needed. Increasing uncertainty does not alter this.
2. When asset specificity increases, transaction costs associated with market governance increase. Bilateral dependency leads to a weak ex post negotiation position of investors. Therefore the investor will be reluctant to make the investments,

which leads to hold up. Hybrids and hierarchies then become preferable over markets; at very high levels of asset specificity, hierarchy is the appropriate governance form.

3. In the presence of asset specificity, frequent transactions between the same parties tend to make them replace market by hierarchy (Williamson, 1985). Asset specific transactions that occur frequently require constant monitoring effort in the market, whereas occasional transactions need not be attended to continuously and do not justify making the bureaucratic costs of establishing a hierarchy.
4. When asset specificity is present to a nontrivial degree, heightened uncertainty increases the transaction costs associated with market governance.
5. When asset specificity is present to a nontrivial degree, growing uncertainty renders markets preferable to hybrids, and hierarchies preferable to both hybrids and markets Williamson (1991a). '[C]ontinuity between the transacting parties becomes important, and adaptive capabilities become necessary. In the presence of asset specificity, increases in uncertainty thus render market governance subject to costly haggling and maladaptiveness, and increase the relative attractiveness of hierarchies and hybrids. However, at high levels of uncertainty, the 'intermediate range' of asset specificity within which hybrid forms are preferred tends to shrink, and may even disappear. This is because hybrid adaptations cannot be made unilaterally (as with market governance), or by fiat (as with hierarchy), but require mutual consent. The result is that high uncertainty renders both market governance and hierarchies preferable to hybrids' (David and Han, 2004, p. 41).
6. When either investments are highly asset specific and uncertainty is high, or when investments are mixed and uncertainty is high, hierarchy is the most efficient governance mode. Uncertainty is the determinant for the incompleteness of the contract and the opportunities of ex post haggling attached to it. High uncertainty creates situations open to contest and conflict because deviant behaviour is difficult to determine and prove. Within a hierarchy the ex post negotiation position with regard to these types of transactions are changed, because interests are adjusted and options eliminated. The hold up problem is avoided, because conflicts between interests of both partners are removed. Although internal organizational problems and costs of internal organization can arise, the benefits of vertical integration are larger. These problems and costs do not compare to the benefits of vertical integration when uncertainty is low. In stable markets deviant behaviour is unattractive because it will be recognized. Other contracting partners will not be inclined to

contract with deviant parties. Hybrid modes of governance, especially long-term contracts, are the most efficient solution in sufficiently stable markets. In these markets a good reputation is important and deviant behaviour unattractive. The value of a reputation depends on how often a transaction takes place, the duration of the relationship and the profitability of a transaction.

7. Governance modes that are well aligned with transaction characteristics are bound to exhibit performance advantages over other modes (Williamson, 1998b); for example, when both asset specificity and uncertainty are high, hierarchy is to be expected to exhibit performance advantages over markets and hybrids.

2.5 Limitations

TCE is not without its critics. Criticism is especially directed towards the behavioural assumption of opportunism (Noorderhaven (1995) and Ghoshal and Moran (1996)). Noorderhaven (1995), for example, argues that the assumption of opportunism that gives rise to the problem of economic organization also tends to undermine the proposed solution of vertical integration. Vertical integration requires actors to be partly opportunistic and partly not opportunistic. According to his critics, Williamson does not account for this dilemma. Another reproach is that TCE uses the logic of the market to identify the attributes of internal organization, but does not appreciate the unique attributes of internal organization that cannot be reduced to market characteristics (Ghoshal and Moran, 1996). Concepts such as trustworthiness (Noorderhaven, 1995), social structure and social relations (Granovetter 1985, 1992) are not incorporated in the theory. These could be of special importance in explaining internal organization.

Furthermore, criticism is directed at the use of a 'reduced form model' and the lack of direct measurements of transaction costs. This model relies on estimations of reduced-form relationships between observed characteristics of transactions and modes of governance (Masten et al., 1991). It enabled researchers to formulate testable hypotheses on the relative efficiency of governance structures. These hypotheses were related to the measurable characteristics of the transaction. Although the development of such a reduced form analysis has led to the important advance of the operationalization of TCE, the approach itself brings interpretative problems with it, because 'such indirect tests are unable to distinguish whether observed patterns of organization resulted from systematic, but as yet unexplored, variations in the costs incurred organizing production internally' (Masten et al., 1991, p. 2). In addition to these interpretative problems, the need for direct measurements becomes relevant given the many merely indirect tests that have been performed. Their results show consistency with the predictions of TCE, but

have not yet demonstrated that the outcomes are necessarily associated with transaction cost minimizing behaviour (Carter and Hodgson, 2006).

The criticism is just. Using TCE to *explain* the organization of transactions is not always adequate. Attention should, therefore, be directed at a further development of TCE. This is even more necessary when using TCE to explain the choice for particular governance structures in the public sector. This is however not the aim of our study. As discussed in the introduction of this thesis, a central point of our study concerns the issue of whether alignment of transactions and governance structures matters. With this type of analysis we shall address the last point of criticism.

2.6 An ‘empirical success story’?

The question contained in the title of this section is answered in the affirmative by Williamson (2000, p. 605) and other authors within TCE literature. In addition, TCE is an empirical success story is the conclusion of some reviews, but not all reviews. Some authors have reservations. Regarding the empirical literature on TCE’s applicability many reviews have been published. As far as we are aware the first one is a survey of Joskow (1988). At that time the amount of empirical literature was still rather limited. Joskow focuses on the structure of vertical relationships, and in particular the role of asset specificity, transaction costs, and incomplete contracts. He finds strong empirical support for the importance of transaction costs considerations, especially the importance of asset specificity, in explaining variations in vertical integration. However, he also observes that more theoretical and empirical work is to be done. After Joskow’s review, many other reviews have followed (see Shelanski and Klein (1995), Masten (1996a), Rindfleisch and Heide (1997), Masten and Saussier (2002), Vannoni (2002), David and Han (2004), Klein (2005), Macher and Richman (2006) and Carter and Hodgson (2006)). In this section, we only discuss some of them, since the overlap between various reviews is considerable.

Shelanski and Klein (1995) provide a review and an assessment of studies concerning several key empirical issues or phenomena on which they think TCE has enabled researchers to make substantial progress. These are vertical integration, hybrid contracting modes, long-term commercial contracts, informal agreements, and franchise contracting. They conclude that on balance, a remarkable amount of empirical work is consistent with TCE predictions. The studies examining the make-or-buy decision and the structure of long-term contracts, in particular, overwhelmingly confirm transaction cost economic predictions. However, they also observe that much remains to be done, both in applying those approaches already available to additional data, and in further

refining and developing the methods to test transaction cost hypotheses. More specifically, they observe measurement difficulties, especially with regard to the measurement of asset specificity. Furthermore, there is confusion about definitions and therefore, operationalization of key variables. Especially, the failure of studies to take into account that the effect of uncertainty on governance structures hinges on asset specificity and the consequent bilateral dependency can explain some conflicting results on the effects of uncertainty. Besides that, a more general problem is that alternative hypotheses² that could also fit the data are rarely stated and compared.

Rindfleisch and Heide's (1997) review synthesizes and integrates the findings of 45 key empirical TCE studies across a broad range of disciplines. On the basis of this review they make an assessment of how valid TCE's framework is. With regard to the safeguarding problem they conclude that studies provide considerable support for TCE's hypothesized effects of specific assets and mixed support for its assumption about the existence of opportunistic actors. The results are mixed regarding the extent of opportunism in exchange relationships. However, when opportunism is present, it has a negative impact on performance. The use of governance in general and vertical integration in particular as a means of safeguarding specific assets is broadly confirmed. In addition, these studies show that firms can protect their specific assets by pursuing a variety of hybrid governance mechanisms. Also, studies present mixed support for TCE's hypothesized effects of environmental uncertainty. Although some TCE researchers find that environmental uncertainty is positively related to vertical integration, a greater number of researchers show that, in some contexts, environmental uncertainty either has no impact on vertical integration or acts as a disincentive against vertical integration. TCE's claim that firms employ vertical integration as a means of easing the burden of performance evaluation is broadly supported. Questions that remain are related to the concept of transaction costs, TCE's behavioural assumptions, the effects of environmental uncertainty, TCE's unit of analysis, and the governance decision.

Klein (2005) observes that most empirical work on the make-or-buy decision adopts the transaction cost framework and follows the same basic model. This means that the efficient form of organization for a given economic relationship – and, therefore, the likelihood of observing a particular organizational form or governance structure – is seen as a function of the attributes of the underlying transaction, that is of asset specificity, uncertainty and frequency. Klein describes how a variety of research techniques has been used in the empirical literature. He observes a mix of qualitative case studies, quantitative case studies focusing on a single firm or industry and econometric analysis of cross-sectional or panel data from multiple firms or industries. A large variety of topics

2. Alternative hypotheses are, for example, competence or resource based hypotheses.

has been analysed. One topic is component procurement. Nearly all studies on this topic are focused, single-industry case studies. A few studies rest on cross-sectional or panel data. A second topic is the key issues related to the choice between market, hierarchy and contracts (or other hybrids). One such key issue is the choice itself. Another one is the question of what provisions, given the choice for contracts, these contracts should contain in terms of duration, completeness, complexity and other attributes. Klein (2005) concludes that the empirical literature on the make or buy decision including the structure of long-term contracts and hybrid forms or organization is largely consistent with the transaction cost theory of the firm: vertical arrangements are usually best understood as attempts to protect trading partners from the hazards of exchange under incomplete contracting. However, challenges, puzzles and opportunities remain: (i) the measurement and definition of transaction characteristics and other variables remain inconsistent, (ii) many studies do not explicitly compare rival explanations for vertical relationships, (iii) the correlation between transactional attributes and governance structures is often mistaken for causality, (iv) legal and regulatory environments do not always get sufficient attention. Klein ends with three lessons. The first lesson is that asset specificity is an important determinant of vertical contractual relations. It is not the sole determinant, however. The second lesson is that vertical relations are often subtle and complex. The third lesson is that, while we know much about the transaction cost determinants of vertical relations, we know relatively little about the relation between the costs of contracting and organization and the wider legal, political and, social environment.

David and Han (2004) present more mixed results. While they detect support in some areas, they also find considerable disagreement on how to operationalize some of TCE's central constructs and propositions, and relatively low levels of empirical support in other core areas. They start by referring to the heated debate that continues regarding the theory's empirical validity and applicability. Furthermore, they state that a thorough assessment of empirical support is necessary. Previous reviews are largely unsystematic and almost exclusively narrative, with no explicit selection and evaluation criteria. David and Han's method differs from the traditional narrative reviews by being more systematic and explicit in the selection of studies and by employing quantitative methods of evaluation. They select a sample of studies that test core propositions of the theory, thereby restricting themselves to published journal articles and statistical tests. They find overall support to be at 47%, which result keeps them from 'unreservedly agreeing that the theory is an empirical success story' (David and Han, 2004, p. 52). They observe significant variation in support for the theory's predictions. Asset specificity as an independent variable fared best, while uncertainty as an independent variable was less convincing. Furthermore, some important TCE relationships have not received much empirical attention

at all, for example, frequency and performance. For the performance of the choice for a particular governance structure, no evidence exists as to whether this choice is in some or other way efficient. On this basis, they conclude that empirical work on TCE as a whole has provided a rather limited picture. They also find a significant amount of discrepancy and disagreement regarding the operationalization of core constructs and the interpretations of key concepts. Their conclusion is that a greater consensus on core constructs and relationships would allow the theory to be further developed, more consistently and convincingly.

Macher and Richman (2006) have also written an extensive review. Their review differs from the other reviews because of their broader look. Macher and Richman make a distinction between business-related fields and fields farther removed from business such as public policy and law, health economics and agricultural economics and policy. They conclude that the applicability of TCE to empirical problems across several business-related phenomena, such as marketing, finance and organization theory, is impressive. The majority of empirical research in TCE is found to be a variation of the discriminating alignment hypothesis. In that context the organizational mode is the dependent variable, while transactional properties, as well as other control variables, serve as independent variables. An examination of a subset of 600 empirical TCE-related articles and book chapters categorized in several major areas finds, on the whole, remarkably consistent support for TCE predictions. The survey highlights the tremendous range of empirical phenomena that have been explored through the lens of TCE. Beyond its initial focus on the make or buy decision, TCE has provided a framework for examining the organization of labour, dominant firms, contracting for natural monopoly, non-standard contracting, corporate governance, public bureaus and reputation. Based on this range of phenomena, the authors conclude that the survey validates Williamson's contention that any problem that can be framed as a contracting problem can be usefully examined through the lens of TCE. Another important conclusion is that empirical research in TCE has become increasingly multidisciplinary. Interestingly, in addition to being multidisciplinary, TCE is also becoming more interdisciplinary. The interdisciplinary character of the research can be seen in the integration of TCE in alternative theories of the firm. This is useful in the effort better to understand complex economic phenomena and to build a coherent science of organization. Still, Macher and Richman also point out some lingering issues. The first is the need to measure and test more precisely the effects of key transaction cost variables such as asset specificity and uncertainty. The second issue is the notion of opportunism which also suffers from measurement concerns. The third issue is the oversight in the existing empirical literature of the performance implications of the choice for a particular governance structure. Only a few studies pay explicit atten-

tion to the costs associated with failing to align transactions and governance forms. The fourth and last issue is that TCE lacks a rigorous mathematical foundation. 'While a more complete formalization will not alleviate all definitional ambiguities, it should provide researchers with greater precision regarding the key concepts that are hypothesized to have organizational outcomes' (Macher and Richman, 2006, p. 55).

Carter and Hodgson (2006), in a most recent survey, analyse the application of TCE in relation to the debate on the nature of the firm. They analyse a sample of 27 studies of which 12 deal with vertical integration and 15 with hybrid relationships. All 27 studies have been published in prominent academic journals. The small sample is due to very stringent selection criteria such as a minimum average citation level of five per year and the employment of an empirical model that is based at least in part on Williamson's TCE. The results of the vertical integration studies are mixed. No study is fully consistent with the framework, five are partly consistent with the framework and six are partly consistent and partly inconsistent, while one is inconclusive. The results of studies on hybrid modes of governance give relatively less support for TCE. Most studies test, only to a limited degree, predictions of the framework. The results of ten of the fifteen studies are inconclusive, three are partly consistent, and two are partly consistent and partly inconsistent with TCE. The most prominent problem in relation to this part of the empirical studies is that Williamson provides insufficient detail on the characteristics of hybrid modes of governance. In addition, Carter and Hodgson (2006), on the basis of their findings, make a case for testing rival theories in order to identify whether correlations are actually consistent with TCE or alternative theoretical explanations. They argue that there is some significant empirical evidence in support of elements of TCE, but taking Williamson's framework and the evidence as a whole, the picture is rather mixed.

In conclusion, is TCE an empirical success story? This question is not easy to answer on the basis of the presented results. We have discussed several surveys, and we have found that the findings are mixed. Some are enthusiastic about the results, some are much more reserved. Researchers agree that TCE has indeed contributed to understanding the problem of economic organization. It is regarded as 'a well established research program with a well developed theoretical framework and good results in empirical testing' (Groenewegen, 1996, p vii). All researchers observe, however, that some important problems remain to be solved. These problems range from operationalizing core concepts via direct measurements of transaction costs to testing rival theories. Some of these issues will be addressed in this thesis of which the operationalization of attributes of the transaction and the measurement of transactions costs are the most important ones.

2.7 Summary

We end this chapter by summarizing the five main elements of TCE (Williamson, 1985, p. 41-42). These elements are the starting point of our analysis of the extension of TCE to the public sector in the following chapters.

1. The transaction is the basic unit of analysis.
2. Any problem that can be posed directly or indirectly as a contracting problem can be usefully studied in transaction cost economizing terms.
3. Transaction cost economies are realized by assigning transactions (which differ in their attributes) to governance structures (which are the organizational frameworks within which the integrity of a contractual relation is decided) in a discriminating way. Accordingly:
 - The defining attributes of transactions need to be identified.
 - The incentive and adaptive attributes of alternative governance structures need to be described.
4. Although marginal analysis is sometimes employed, implementing transaction cost economics mainly involves a comparative institutional assessment of discrete institutional alternatives – of which classical market contracting is located at one extreme; centralized hierarchical organization is located at the other; and mixed modes of firm and market organization are located in between.
5. Any attempt to deal seriously with the study of economic organization must come to terms with the *combined* ramifications of bounded rationality and opportunism in conjunction with a condition of asset specificity.

Although Sections 2.5 and 2.6 show that there is a great deal of concern regarding some aspects of TCE, we consider it fruitful to extend TCE to the public sector, since the possibility of application to public sector organizations can constitute an essential contribution to further development of the theory. Before we go into our extension of TCE, we pay attention to the way in which earlier researchers have introduced TCE in public sector analysis. In our discussion of the review of Macher and Richman (2006) it already became clear that TCE's applicability reaches further than commercial transactions.

Chapter 3

Transaction Cost Economics and Public Sector Analysis

IN THE PREVIOUS CHAPTER we discussed the core concepts of TCE, its empirical success and its limitations. In this, we find arguments to adopt the perspective of TCE to analyse the efficiency of governance structures in the public sector. TCE offers a sophisticated line of thinking for analysing privatization issues, because in a first approximation, it is simply the issue of whether a public service should be ‘made’ or ‘bought’ (Frant, 1991). In this sense, it can be interpreted as a contracting problem. According to Williamson all contracting problems can be analysed in terms of transaction cost economics. Especially relevant in this respect is TCE’s discriminating alignment hypothesis, to the effect that a transaction cost economizing result is reached when transactions with specific characteristics are aligned with governance structures with specific characteristics.

This is not the first attempt to apply TCE to the public sector. In addition to Williamson himself, other researchers have shown the relevance of TCE in the context of public service provision. This has been done in the TCE literature and public administration literature taking a transaction cost-based view of governmental privatization decisions. These two lines of literature have basically developed separately and have not frequently met. This is actually a common phenomenon in new institutional economics. One explanation is that much research is published in journals that are not familiar to others working in the field and that, often, researchers are unaware of findings from disciplines other than their own (Ménard and Shirley, 2005). This state of affairs can also be observed with regard to the application of TCE to the public sector. The fields of TCE and public administration essentially show little awareness or mutual recognition of each others findings.

In this chapter, we shall limit ourselves to discussing the literature within TCE re-

search and literature which can be found within public administration research. Given this restriction, it is possible that we omit some fine examples of applications of TCE to the public sector. The review in this chapter can, therefore, not be complete, but we think that by discussing the selected studies, we are able to give a fair impression of the research conducted on this particular subject. We pay attention to the way in which researchers in both lines of literature introduced TCE earlier in public sector analyses. In addition, with regard to the TCE research we specifically focus our attention on Williamson's contribution to public sector analysis. With regard to the public administration literature, we shall distinguish between the majority of studies that focuses on the local government level and a smaller number focusing on other levels of government. Both lines of literature have inspired us to an extension of the core elements of the theory: transactions and governance structures. On the basis of our review, in the next chapter we translate TCE in public sector terms and extend it to that sector.

3.1 TCE literature on the public sector

In this section we discuss the way in which in the TCE literature public sector issues are addressed. We pay attention to early empirical work of Williamson (1976) and Goldberg (1976) on public utility services and recent empirical work of a variety of authors in TCE on a variety of subjects. In addition, Williamson's recent work on public and private bureaucracies, in which he extends TCE theoretically to the public sector, will be discussed.

3.1.1 Empirical applications

Williamson already applies TCE to the public sector in an early study of a public utility service (Williamson, 1976). He makes an analysis of franchise bidding in the case of cable television. In this case parties have to bid for the right to install and operate a cable television system, where this right is awarded to the bidder offering the lowest monthly fee for basic service. Problems arise because of an overly simple award criterion that results in a misleading and possibly deceptive award, disputes over price, quality, and timing during contract execution, and the inability or unwillingness of local government to exercise its rights to discipline the franchisee by taking its assets and transferring them to an alternative operator (Crocker and Masten, 1996). Williamson observes that franchising, therefore, often ends up in intensive government regulation. The government wants to reduce uncertainty and introduces safeguards to that end. These cause transaction costs for the government, which have to be taken into account. Williamson

finds that such transaction costs are often overlooked because – even though they have budgetary impacts – they are difficult to discern and their impact is subtle. Williamson (1976) argues – likewise Goldberg (1976) – that the problems associated with contracting solutions in the types of environments encountered in public utility transactions may be difficult to tackle. Crocker and Masten (1996) summarize their findings as follows. Firstly, while competitive bidding can be an effective way of determining the lowest cost supplier when the price of the good or service procured is the buyer's only concern, it works less well for complex goods and services where the buyers are more concerned with the quality, reliability, and other attributes of the procurement than with the price. Secondly, because supplying public utility services typically requires large, durable investments in production and distribution facilities that are specialized for a particular market, the efficient mode of governance requires long-term contracts to avoid the hazards involved in recurrent haggling over the terms of trade once those investments are in place. Finally, uncertainty as to cost and demand conditions over such long horizons, as well as the complexity of public utility services tend to make long-term contracts for public utility services inevitably incomplete. As Goldberg (1976) puts it: 'the problems are intrinsic to the service'. Especially public utility services – characterized as complex or uncertain transactions requiring durable, specialized investments – require governance structures that are aligned with these characteristics (for example long-term, incomplete, relational contracts). Here we touch upon the central idea of TCE, namely that characteristics of transactions should be aligned with characteristics of governance structures to achieve a transaction cost economizing result. These early attempts of Williamson and Goldberg to apply TCE's line of reasoning to public utilities confirm Williamson's proposition that any problem that can be formulated as a contracting problem can be analysed in transaction cost economizing terms. This is reconfirmed by more recent studies within TCE, which respectively center around public utilities and regulation, law and policy and organizational changes in the public sector. These themes will be briefly discussed in the following.

With regard to public utilities and regulation, Crocker and Masten (1996) give an overview of empirical TCE work. The studies contain early criticism of the natural monopoly approach to utility regulation. The main argument against this approach is that while technological conditions can require one single supplier, whether that supplier should be regulated by the state or market-like mechanisms is a separate question (Macher and Richman, 2006). Crocker and Masten's review shows the importance of TCE in organizational choice and design decisions with regard to public utility transactions (Crocker and Masten, 1996, p. 35):

The fundamental lesson provided by transaction cost economics is that or-

ganization form matters and that, depending on the specifics of the environment, some modes of governance will be preferred to others. This observation is particularly germane in the current regulatory setting, where less intrusive and more impersonal mechanisms are often advocated as remedies for the perceived inefficiencies and arbitrariness of traditional rate-of-return regulation. When considering these alternatives, the economic tradeoffs inherent in the transaction cost approach provide guidance on appropriate modifications, as well as warn of potential pitfalls.

Macher and Richman (2006) show that in addition to the empirical work on regulation and public utilities, TCE is used to examine various other issues related to law and policy. A few relevant examples are that of Levy and Spiller (1994), Spiller and Tommasi (2003) and Richman and Boerner (2006). Levy and Spiller (1994) use TCE to analyse the determinants of performance of privatized utilities in different political and social circumstances. They make a comparative assessment of the impact of core political and social institutions on telecommunications regulatory structures and utility performance outcomes in five countries. The success of regulatory governance and incentive designs is shown to depend on how well they fit in with a country's prevailing institutions. If a country lacks the requisite institutions or erects a regulatory system that is incompatible with its institutional endowment, efforts at privatization can end in disappointment, recrimination and the resurgence of demands for renationalization (Levy and Spiller, 1994, p. 242). Spiller and Tommasi (2003) deepen this study by investigating policies broader than utility regulation. They study, in more detail, the political-institutional environment of a country. This environment, together with the underlying features of the policy issues at stake, will determine the governance structure for each political transaction. A different kind of research is that of Weingast and Marshall (1988) in which a theory of legislative institutions is developed that runs parallel to the theories of the firm and of contractual institutions. Other research in the field of law and policy is by Richman and Boerner (2006). They view NIMBY¹ disputes as contracting problems in a world of positive transaction costs, which enables them to reveal the dynamics of negotiations between developers and communities. They aim at identifying the contracting problems inherent in siting waste facilities, evaluating the costs and competencies of various regulatory regimes and matching the two so as to minimize transaction costs. With their perspective they identify the role that TCE can play in understanding how siting regulations reduce transaction costs and how regulatory regimes can be optimally designed for

1. The NIMBY ('Not In My Back Yard') problem arises with any effort to site locally undesirable but socially beneficial facilities. Projects such as homeless shelters, airports and prisons typically impose concentrated and localized costs while creating widely dispersed benefits. These projects often provoke intense resistance from local residents (Richman and Boerner, 2006, p. 32).

siting alternative facilities.

Dixit (1996) applies the transaction-cost perspective on economic policymaking. In this study he examines a large variety of transaction costs that are encountered in the policy process. He studies two examples of economic policymaking, namely tax reform in the United States and, the General Agreement on Tariffs and Trade (GATT) and international trade politics. In this study he shows that a transaction-costs perspective can help to better understand the process of economic policymaking.

TCE is also used in analysing organizational changes in the public sector. Part of these studies focuses on the local level. Ménard and Saussier (2002) are among the first to conduct econometric tests in TCE to explain decisions by governments either to provide a service directly or to contract out either a part (lease) or all of a service (concession or privatization) to a private operator. They apply the TCE framework to the case of French water supply by local authorities. Two questions are addressed. What determines the choice of a specific mode of governance among a set of possible modes? How do alternative modes of governance perform with regard to the same type of transactions? They conclude that characteristics of the transactions at issue determine the choice of decision-makers at least partly. Their results also strongly suggest that no mode of governance is absolutely preferable over the others. They discern only comparative advantages that depend crucially on characteristics of the transactions governed. Huet and Saussier (2003) build on this study by investigating the link between the governance structures chosen by local public authorities in France, transaction characteristics and observed performances in the case of the water supply sector. They find a clear link between price, the level of specific investments and efficiency. They, therefore, conclude that 'organization matters'.

Levin and Tadelis (2005) study the determinants of privatization at the level of U.S. city governments. They assess a broad spectrum of public services, finding that services for which it is harder to specify, enforce or adjust performance standards are less likely to be privatized. This is also confirmed for services with a high sensitivity to quality. Furthermore, they find that services that are less frequently provided are more likely to be privatized. An interpretation of this result is that these services are viewed as less central to the public mission of municipalities. The overall conclusion drawn by Levin and Tadelis is that a transaction cost based view of privatization provides a useful framework for explaining local government contracting patterns, at least at the level of U.S. city government.

Complementary to research analysing local government changes, other studies focus on shifts in governance at the national levels. Fredland (2004) examines the current and potential roles of military companies providing both combat and support functions to (sovereign) governments from the perspective of TCE. He concludes that the role of

the private sector in providing military force is, and is likely to remain, a limited one. Although there are tasks that can be privatized, for example training and support functions, uncertainties in military situations make efficient contracting between the state and military companies inevitably problematic. Direct combat, for example, clearly involves sovereign transactions, which suggests serious contractual hazards. The state must be confident of the loyalty of management and personnel of the defense bureau to its mission and to the state. Without these loyalties, the state itself is threatened.

Yvrande-Billon (2007) investigates whether the British authorities' decision to use short-term franchise contracts for the procurement of passenger rail transport matches a transaction cost minimizing logic. She states that contractual choices made by the British rail reformers do not rely on transaction cost minimizing principles, because whatever the level of asset specificity, contracts have nearly the same duration. Consequently, the arrangements are not efficient. Building on this research, Yvrande-Billon and Ménard (2005) show what happens when policymakers adopt a mode of organization that fits imperfectly with the type of transaction at stake. In the case of the British railways policymakers have involuntarily initiated a series of changes. To deal with the resulting misalignment, parties to the transactions adopted a strategy oriented towards reducing the specificity of investments involved. More generally, Yvrande-Billon and Ménard illustrate that if the attributes of the transaction have a direct effect on the choice of a governance structure, this choice influences in its turn the nature and characteristics of the transaction.

Summarizing, in the TCE literature we observe a variety of studies that apply TCE to the public sector. They vary from analysing the regulation of public utilities to the choices made by governments to provide other public services. With regard to public utilities, TCE provides an explanation of the choice for regulatory policies. With regard to the provision of public services, government choices such as contracting out and privatization decisions are in line with TCE. This empirical evidence shows the applicability of TCE to the public sector. Most of the researchers stay close to the core of TCE and analyse whether attributes of transactions – as defined by Williamson – determine the choices that are made by governments. Levin and Tadelis (2005) add to these characteristics the insight that sensitivity to the quality of a service also matters. Ménard and Saussier (2002), Huet and Saussier (2003), Yvrande-Billon and Ménard (2005) and Yvrande-Billon (2007) take a step further and analyse whether governments' choices for particular modes of governance matter for the performance of the provision of public services.

3.1.2 Williamson's theoretical extension of TCE to public bureaus

Only recently, Williamson (1997, 1999) started to extend TCE theoretically to the provision of public services and to choices that governments must make between providing a service themselves or contracting it out through contractual arrangements. To our knowledge, Williamson's 1999 article is the only attempt to draw the theoretical implications of applying TCE to the public sector. The most important adjustments to his original theory are modifications in the attributes of the transaction on the one hand and in the spectrum of governance structures on the other. This is Williamson's only contribution to this issue, except for his early work on the provision of cable television discussed in the previous section (Williamson, 1976). This suggests that Williamson's main objective was to show whether TCE could provide insights into the choices made by governments for public bureaus with regard to the provision of public services. By showing this, he finds supports for the idea that TCE is applicable to a broad range of issues.

Williamson holds that TCE can also be applied to public sector issues on condition that we make an economic appreciation of the properties of alternative modes of governance in the public sector that is geared to its specific characteristics (Williamson, 1999, p. 318).

To denounce public agencies because they have lower-powered incentives, more rules and regulations, and greater job security than are associated with a counterpart private bureau completely misses the point if those features have been *deliberately crafted* into the public bureau, thereby mitigating contractual hazards, albeit at a cost.

Against this background, Williamson takes a TCE perspective in analysing public sector transactions and their governance structures. He distinguishes between six types of public sector transactions: procurement, redistributive, regulatory, sovereign, judiciary and infrastructure transaction. Williamson confines himself to sovereign transactions². Examples are foreign affairs, the military and foreign intelligence. To Williamson, sovereign transactions can be characterized in terms of asset specificity, especially human asset specificity, and of the newly introduced, hazard of probity. This hazard of probity refers to the loyalty and rectitude with which a sovereign transaction is discharged (Williamson, 1999, p. 322). Probity is achieved through leadership and management attributes of modes of governance, especially, the public bureau.

Just as private governance structures, public sector governance structures are characterized by features such as incentive intensity, administrative controls and contract

2. A concept of Wilson which he describes as transactions that 'are endowed with infeasible authority' (1989, p. 348). According to Wilson the government organizes these transactions because 'it alone embodies the public's authority' (1989, p. 359).

	Privatization	Regulation	Public bureau
Instruments			
Incentives	++	+	0
Bureaucratization	0	+	++
Performance attributes			
Adaptive autonomy	++	+	0
Adaptive integrity	0	+	++
Contract law			
Executive autonomy	++	+	0
Staff security	0	+	++
Legalistic dispute settlement	++	+	0

Table 3.1: **Distinguishing attributes of privatization, regulation and public bureau** (where ++ denotes a strong, + denotes a semi-strong and 0 denotes a weak presence) (Williamson, 1999, p. 336)

law. Table 3.1 shows how public governance structures can be characterized according to Williamson. Note that Williamson uses terms that differ slightly from those employed with regard to the private sector (see Table 2.1). He uses the term bureaucratization instead of administrative controls and adaptive autonomy and adaptive integrity instead of autonomous adaptation and coordinative adaptation. These differences lie more in terminology than in the content of the terms. However, this is not the case with regard to contract law. Contract law in the public sector is defined in terms of a complex of attributes, namely the employment relation consisting of executive autonomy and staff security, and legalistic dispute settlement.

Generally, full privatization or contracting out is associated with the strongest incentives and the smallest measure of administrative control, the strongest propensity to behave autonomously and avoid cooperation, legalistic dispute settlement regimes, in-house appointments of executives and the smallest degree of security of staff employment. The public bureaucracy is in all of these respects the opposite, while regulation is located in between these two extremes along all dimensions. Williamson (1999, p. 334) defines the mode 'regulation' as follows:

Regulation could be thought of as a very long-term incomplete contract of a cost-plus reimbursement kind in which the interests of the government are protected by (1) embedding the agency in a complex regulatory apparatus, whence extensive rules, regulations, and procedures will appear and provision will be made for periodic auditing, (2) executive appointments are made

in consultation with the president and with the tacit (or actual) approval of Congress, and (3) the staff of the agency is provided with both added security of employment and greater social conditioning to the mission of the agency, possibly through training by the staff of the regulatory agency.

Accordingly, regulation combines semi-strong incentives with limited to strong administrative controls, semi-strong propensity to behave both autonomously and cooperatively, an average degree of autonomy of executives and security of staff employment and dispute settlement by arbitration (Williamson, 1999, p. 336).

Williamson analyses the foreign affairs transaction conducted by the U.S. State department to determine whether TCE can provide evidence that the public bureau is the most efficient mode of governance compared with alternative feasible forms. Foreign affairs, in this case, involves diplomatic and consular activities. He has two reasons for choosing this kind of uncontested public transactions. Firstly, even the obvious can sometimes benefit from explication and secondly, extreme instances often help to uncover 'essentials of the situation' (Williamson, 1999, p. 307). With regard to foreign affairs transactions he indeed concludes that the public bureau – the U.S State Department – is the most efficient governance structure as compared to regulation and privatization. The following argument supports this conclusion. There is some asset specificity (mainly human asset specificity), a high degree of probity, while operating cost excesses are small. Probity concerns will be relieved by governance structures to which reliable responsiveness to the president – goal congruence, timely compliance, and lack of adventurousness – can be ascribed (Williamson, 1999). The governance structures of both full privatization and regulation do not meet these requirements. Full privatization means that foreign affairs would be contracted out to a private firm, which is characterized by greater incentive intensity, less complete administrative controls, less responsive management and a less protected staff. Cost control would get stronger emphasis, while probity would be sacrificed, while the staff would be less protected and committed to the mission. Possibly, regulation would be better suited to conduct foreign affairs than full privatization. However, problems would still arise. What would cause problems with a choice of regulation is the mode of governance in which foreign affairs transactions would then have to be conducted. The nature of the 'contract' would be vague and open-ended, while an additional level of bureaucracy, the regulatory bureau, would be inserted between the president and the administration. In this setting, the regulatory bureau would lack first-hand knowledge and experience to exercise proper control, the government would have problems in being adequately informed and the controlled firm would have difficulties in defending itself against eventual accusations of indolence, incompetence or disloyalty when things go wrong. All in all, the public bureau remains to be the most transaction

cost efficient governance structure with regard to the foreign affairs transaction.

In Williamson's extension of TCE and the empirical applications discussed in the previous section, we find support for applying TCE to the public sector. However, we observe that authors in the TCE literature apply TCE without elaborating in great detail on the specific characteristics of the public sector. Aspects that are added are (sensitivity to) quality (Levin and Tadelis (2005) and Huet and Saussier (2003)) and probity (Williamson, 1999). With regard to this last aspect the question is whether probity is the only distinguishing feature of the public sector. All the more since Williamson focused on sovereign transactions, while there are many less extreme public sector transactions that are not characterized by the hazard of probity, but can also have specific attributes. This is not addressed in-depth in this literature.

3.2 Public administration literature on TCE

In addition to TCE literature, in the public administration literature the question is also addressed what TCE can teach us about the provision of public services. In Chapter 1 we briefly touched on this literature. The main conclusions are that TCE perspective helps to structure our thinking about public bureaucracy (Moe, 1984) and the comparative efficiency of alternative arrangements (Ferris and Graddy, 1998), that it provides a counter-balance by emphasizing institutions and rules as a complement to the strong orientation towards incentives or self interests that characterizes the public choice or rational choice approaches (Lane, 1995), that it offers a more sophisticated line of thought by recognizing that the issue of privatization is in a first approximation simply the issue of vertical integration (Frant, 1991) and, therefore, is especially helpful in analysing public-private interactions (Dollery 2001 and Frant 1991). In general, it is often observed that TCE provides a far-reaching criticism of the all too simple position that the public sector should always contract out to the private sector. It makes a powerful case for contracting out in some situations, but not in all (Coulson, 1997). Different governance structures are best suited to the provision of different services or to functioning in different contexts (Warner and Hebdon (2001) and Ferris and Graddy (1998)). There are reservations with regard to the application of TCE to the public sector as well. For example, Moe (1984) and Marsh (1998) warn against a careless application of TCE to the public sector and advocate a proper translation or extension of TCE. In addition to this literature, which discusses the relevance of TCE more generally, other public administration literature actually applies the TCE framework to specific cases, taking a transaction cost-based view on – mostly local – government privatization decisions. In the next sections, we shall discuss this line of literature.

3.2.1 Research on the local government level

To start with studies that focus on the local level, Ferris and Graddy (1986, 1991 and 1994) analyse the choice of contractors made by local governments. They find that both production and transaction costs influence this choice. Their analysis confirms the importance of production costs, which corroborates the hypothesis that contracting is above all a method for reducing the costs of providing public services. However, the importance attributed to transaction costs suggests that contracting cities are also concerned with the costs of monitoring contracts and can for that reason prefer public or nonprofit contractors, particularly in the case of hard-to-monitor services (Ferris and Graddy, 1991).

Stein (1990) analyses the relationship between service arrangement and policy performance. His central thesis is that the way in which local governments organize themselves to perform policy functions has a significant effect on the scope and content of municipal policy performance. One part of the analysis is an empirical test of the correlations of alternative service arrangements. The correlations of service provision and production are found to vary with the attributes of municipal service responsibility, a condition that confirms the existence of decision rules for matching service responsibilities with specific modes of service arrangement. With regard to joint and complete service contracting and the diversity of service arrangements, some of TCE's hypotheses are confirmed. One finding is that there is a strong and positive relationship between service provision diversity and the scope of service responsibility for transactions with a low asset specificity. This relates to Williamson's prediction that a hierarchical governance structure is suitable for transactions with high asset specificity, whereas a competitive and market-like governance structure appears more suitable to transactions with low asset specificity.

Walsh (1995) analyses the nature and implications of the use of market mechanisms in the management of the provision of public services. He points out the issues that are highlighted by the new institutional economics such as the transaction cost approach. According to him, concepts such as transaction costs enable us to develop a perspective that is more subtle than the simple distinction between public and private ownership. Walsh observes that the transaction costs of a market-oriented provision of public services are considerable, but difficult to assess. The overall costs include costs of introducing new organizational and managerial systems, costs of monitoring and communicating and costs of preparing contracts. To this he adds that these costs 'may be justified because they are offset by gains reached in the efficiency and effectiveness of the public service, but the immediate effect is likely to be experienced as the establishment of a new form of bureaucracy to manage the market' (Walsh, 1995, p. 237–238).

Nelson (1997) also extends TCE to the public sector and the 'make or buy' decisions faced by governments. He concludes that, consistent with TCE's propositions, the costs of writing and monitoring contracts are an important factor in local public service delivery and that in-house supply is not as inefficient as some previous studies indicate. Nelson makes an analysis of sixty-three local public services. He shows that municipal governments are less likely to select external service delivery solutions in environments where preferences are not homogeneous. The nature of services to be delivered in such environments is more complex and they are characterized by a higher degree of human asset specificity. He adds political sensitivity as a characteristic of transactions that can play a role in decisions of policy makers. Political sensitivity is often difficult to incorporate in a contract or to monitor once the contract has been negotiated. Nelson's general conclusion is that governance structures should not be evaluated in the abstract, but rather compared to the expected performance of the available alternative institutional choices. A conclusion that is in line with TCE.

Marsh (1998) applies TCE to housing management. His analysis shows that it is possible to advance arguments by TCE which suggest that for such services contracting may be problematic. The complexity of the transaction, as well as the uncertainty about the performance required is great. Marsh is, however, also critical about the assistance that TCE can offer. He states that analyses in the public sector could use TCE insights as a point of departure, but adds that, at the same time, analyses should move beyond TCE. They 'must move away from the asocial conception of economic agents acting opportunistically in abstract markets' (Marsh, 1998, p. 17).

Kavanagh and Parker (1999) examine the externalization of a local government technical services function which concerns engineering, environmental and property services. The study illustrates difficulties that arise under local authority competitive tendering where parties enter into an incomplete contract and rely on mutual goodwill to adjust the contract terms later. The study confirms that transaction costs can be high in local government contracting, depending upon the nature of the contract and the associated organizational arrangements. Moreover, Kavanagh and Parker find that public sector contracts exhibit an additional hazard, namely, political risk.

Brown and Potoski (2003a, 2003b, 2003c, 2004a, 2004b, 2005) use TCE in analysing the delivery of public services by local governments. They focus on concerns such as to the ability of governments to manage service provision when provided under contract (Brown and Potoski, 2003b). Contracting poses a new set of risks to service delivery. Using TCE, they identify three categories of risks. These are associated with the type of service contracted (in terms of asset specificity and service measurability), the contract partner and the market context of the contract. The overall empirical findings

suggest clues as to why contracting is sometimes successful and sometimes not, especially with regard to waste collection (Brown and Potoski, 2004a). Brown and Potoski (2003c) conclude that applying the transaction costs approach to governments yields important insights. The approach provides a sophisticated and useful means for understanding complex behaviour, such as opportunism of partners and governmental strategic choices. They argue that a transaction cost approach is certainly more conservative than approaches emphasizing the role of trust and networks, but given the consequences of contract failure for certain services, public managers 'may be wise to err on the side of caution' (Brown and Potoski, 2005, p. 332).

Feiock et al. (2003) argue that the transaction costs involved in local contracting choices are linked to both service characteristics and characteristics of political systems that are determinative for political and administrative uncertainty. They find that it is generally unlikely that the local procurement of both private goods and public goods is contracted out to any type of alternative service provider whatsoever. The reason for this is that the transaction costs of monitoring the provision of goods are high for local governments. Furthermore, they find that cities are less likely to contract out services to profit-seeking firms when their administrative environment is unstable. More specifically, executive turnover in city government seems to affect contracting decisions, because it increases the transaction costs of negotiating agreements and influences the ability of governments to make credible commitments (Clingermayer and Feiock (1997) and Feiock et al. (2003)).

Walls et al. (2005) and Walls (2005) study residential waste management. In the first study, Walls et al. (2005) try to find determinants of the market organization of local public services on the basis of an examination of residential waste management. The central question is what explains the organization of local waste and recycling markets. Their results reveal that costs are significant in explaining local governments' choices. In contrast, few political variables are statistically significant. This holds for both waste and recycling management, which provides further evidence that local governments are primarily focused on costs when choosing between public and private provision arrangements. In the second study, Walls (2005), again, analyses residential waste management. However, in this study, she focuses on the structure of contracts. She establishes a relationship between the degree of asset specificity and the likelihood that the local government will choose to retain ownership of a particular facility. Furthermore, Walls concludes that municipalities tend to eschew the use of financial incentives for recycling in favor of mandatory requirements. Most municipalities choose to specify *ex ante* in the contract what the contractor must do exactly, that is, they favour a command-and-control approach. Contractors are not given much freedom and are only allowed a small mea-

sure of flexibility. This could be a consequence of waste management services becoming increasingly complicated.

Kähkönen (2005) analyses the costs of introducing quasi-markets³ into the public sector, as well as the efficiency of quasi-markets. She concludes that creating quasi-markets reduces total costs when competitive bidding is carried out systematically, the process is well planned, the service is easy to specify, contracting the service in question is common and the level of procurement is sufficiently high. Most problematic is that those costs, transaction costs and other costs, that are extremely difficult to measure are of greater significance than the measurable costs.

3.2.2 Other levels of government

Part of the literature aims at applying TCE to issues present at different levels of government than the local level. First of all, Sclar (2000) provides an extensive case study on privatization decisions of both state and local governments. He finds that privatization often results in less service for more money. Obviously, such operations fail to fulfil the expectations of policy makers. Failures are ascribed, for instance, to costs of the privatization operations themselves and costs of monitoring to make sure work gets done correctly, costs which have not been taken into account in advance. Usually the only factor considered is the economic performance of the private firm or regulated bureau, whereas in fact all costs should be taken into account. Sclar uses arguments that strongly resemble TCE considerations. He observes that in agreement with the renewed belief in the efficiency of the market, the question of how governments should organize the provision of public service is prominently present on the policy agenda (Sclar, 2000). Consequently, virtually every public service is nowadays considered a candidate for privatization. All these initiatives are proposed or implemented in the name of managerial efficiency and effectiveness. However, politicians and administrators usually ignore the costly transactional complexity (Sclar, 2000). More specifically, he finds that the most significant public sector costs are, in fact, transaction costs. These transaction costs include administration costs of contract bidding processes and costs of contract management and supervision.

Frant (1996) points out that applying TCE to the public sector demands that attention be paid to political opportunism. He introduces a public-sector version of high powered incentives, namely, the politicians' desire to be re-elected. This desire promotes allocative efficiency by increasing the likelihood that the public sector's products will be valued by

3. Quasi-markets are 'markets' because 'they replace monopolistic state providers with competitive independent ones. They are 'quasi' because they differ from conventional markets in a number of key ways' (Le Grand, 1991, p. 1259–1260).

the people. Sometimes the wish to be re-elected should be replaced by low powered incentives, which means putting the transactions in question out of reach of the political process. With this extension of the concept of high-powered and low-powered incentives, Frant claims to provide a unifying view of public and private organizations. He shows that incentives in the private sector have parallels in the public sector.

Van Leerdam (1999) analyses the relevance of TCE with regard to the autonomization of executive units in Dutch central government. He observes that the institutional environment contributes to the kind of decisions and the type of arrangement chosen. Van Leerdam critically judges the explanatory and policy-instrumental value of TCE. He states that the theory cannot explain the development of institutions over time. Furthermore, he observes that the theory is insufficiently equipped to address the typical characteristics of the public sector, such as the political process and the special nature of public services, and the implications of these characteristics for the behaviour of actors. He concludes that in the context of the public sector TCE should be used with care. At least a translation of the theory is needed.

Ter Bogt (1998, 2003) also explores the relevance of TCE in six cases of autonomization of executive units of central and local governments. He adapts TCE's main concepts to the public sector and presents a *political* transaction cost framework which emphasizes political rationality and political efficiency. His findings indicate that various political reasons played a major part in the autonomization of public organizations he studied. It seems that aspects of politicians' behaviour, such as opportunism, bounded rationality and political rationality, substantially contribute to understanding decisions to autonomize organizations internally or externally, but that the economic reasonings of TCE hardly explain such decisions. In summary, he states that the transaction characteristics of TCE – asset specificity, frequency and uncertainty – can play role, but that they have to be combined with other aspects of politicians' behaviour to frame full explanations.

Parker and Hartley (2003) use TCE to determine whether or not the use of public private partnerships in the UK defence sector will lead to improved economic efficiency. Their case study highlights a number of potential transaction costs in defence procurement, arising from incomplete information, asset specificity and the resulting room for opportunistic behaviour, which obviously cannot be offset by developing trust relationships. The conclusion is that the use of public private partnerships will not necessarily lead to improved economic efficiency in defence procurement and that considerable care must be taken in terms of negotiating, performance monitoring and renewal.

Birner and Wittmer (2004) apply the discriminating alignment hypothesis to compare a variety of governance structures in natural resource management, more specif-

ically protected area management, with respect to costs incurred in achieving natural resource management objectives. Their aim is to explore how TCE can be of help in the institutional design aimed at decentralization. They extend TCE with two additional transaction attributes to capture the specificities of the public transactions involved. The first attribute is 'care intensity' which refers to the fact that activities are 'difficult to monitor because they involve carefulness, watchfulness, and diligence' (Birner and Wittmer, 2004, p. 673). The second attribute is 'contest intensity' which is related to the 'scarcity of the resource system and to the extent to which conservation objectives require restrictions on resource use' (Birner and Wittmer, 2004, p. 673). Due to the characteristics of high care intensity, high frequency and high contest intensity, pure private sector governance is not the appropriate governance structure for biodiversity conservation. The characteristics imply a need for state involvement in the governance structure, amounting to some form of co-management. They conclude that TCE has considerable potential for crafting efficient institutions for sustainable natural resource management.

All in all, this line of research consists of a broad variety of studies. Some of them are more critical than others about the applicability of TCE to public sector issues. Some are clearly positive about the contribution of TCE to the analysis of public sector issues, others are more reluctant. Most of the studies explore the relevance of TCE in explaining the existence of specific institutional arrangements in the public sector. They are all sensitive to the specific characteristics of the public sector. Therefore, most of the authors adjust TCE to some extent. One adjustment of TCE is attention for the political process and political risks. Other adjustments are the introduction of additional attributes of the transaction, such as political sensitivity, service measurability, contest and care intensity, as well as additional attributes of the governance structure, such as a new perspective on low and high powered incentives.

3.3 Overall conclusion on the public relevance of TCE

To draw an overall conclusion on the public relevance of TCE on the basis of the two lines of literature – TCE literature and public administration literature taking a transaction cost-based view of governmental privatization decisions – we, firstly, discuss the relevance of TCE to studies of the public sector in general. Secondly, we address the question what we can learn from the two lines of literature with regard to our central research question.

3.3.1 The public sector in general

The overview given above contains an account of the diversity of studies that have hitherto been conducted in two different lines of research, TCE and the science of public administration. Especially the amount of research on public utilities – within the field of TCE – and local government public service provision – within the field of public administration – is impressive. These studies show that there are many parallels between the transaction cost economics treatment of private sector and public sector contracting (Williamson, 1996). Understanding public sector activity as a contracting problem permits the use of a TCE framework to tailor governance solutions systematically to the provision of public services. TCE identifies contracting problems inherent in the organization of public service provision, evaluates the costs and competencies of different governance structures, and matches the two so as to minimize transaction costs.

Summarizing, we can say that several important questions are addressed. Within TCE literature, the question is often whether there are regularities in the ways in which public services are provided and whether they correspond to TCE's propositions. In addition, some of the studies use TCE in analysing the impact of particular governance structures on performance and efficiency. Within public administration literature, the important question is what determines privatization decisions of local governments. In this context, TCE is seen as a theory that can provide explanatory variables. With regard to both questions, researchers often only analyse a dichotomy of two governance structures, namely, either keeping the provision of public services in-house or contracting out. Actually, more governance structures are available in the public sector.

Most of the research discussed here consists of empirical studies that make use of standard procedures developed in economics, such as statistical or econometric tests. Only a few studies are (qualitative) case studies. Problems that researchers run into are with respect to operationalizing and measuring the attributes of transactions and measuring transaction costs and performance. The fundamental problem remains, however, that much of TCE was originally developed for the private sector and has not yet been sufficiently geared to a straightforward application in the public sector. In the field of TCE, the problem of the two sectors does not receive much attention. TCE is applied in the public sector in the same way as the private sector. Only some minor adjustments are made, but the core of the theory – its assumptions and the attributes of transactions and governance structures – remains the same. An exception is Williamson's own contribution to the subject. However, he only studies an extreme case which makes it difficult to determine what his extension (the introduction of probity as an attribute of the public sector transaction) means with regard to regular public sector transactions. In the public administration literature, researchers pay more attention to the differences

between the private and public sectors. However, they apply TCE quite loosely and use TCE's concepts in a rather arbitrary way. Some of the attributes of transactions are not incorporated in the analyses and replaced by other attributes on a rather ad hoc basis. In other cases, only a few elements of TCE are used in otherwise preponderately politically oriented frameworks. This is especially the case where TCE is used as a theory to explain the existence of particular governance structures.

On the basis of this review, we conclude that TCE can be of relevance to the analysis of institutional arrangements in the public sector. However, as several authors point out, a careful application is necessary because of the underlying assumptions of TCE (see also Section 2.5) and its private origin. In the remaining part of this chapter we will address how, in our view, TCE can provide a perspective from which to analyse the efficiency of governance structures in the public sector.

3.3.2 The analysis of efficiency of public governance structures

When analysing the efficiency of public governance structures, we first of all have to determine what the public sector is. Williamson's spectrum of public governance structures illustrates that the public sector is neither a single governance structure nor a hierarchy (see Table 3.1). The public sector consists of a variety of modes of governance among which the hierarchy is only one feasible mode. We indicate the hierarchy as 'public bureau'. The public bureau can be thought of as the governance structure of the last resort, as is shown in Williamson's extended contracting schema⁴ (Figure 3.1). In this approach, the basic idea is 'try spot markets, try firms, try regulation, and reserve recourse to public bureaus when all else fails (comparatively)' (Williamson, 2000, p. 603). We follow Williamson, but add that this way of presenting is also to a certain extent misleading, as it suggests that private and public governance structures could be represented on one spectrum. However, the public sector is fundamentally different from the private sector and is accordingly characterized by fundamentally different governance structures (as is shown in Table 3.1). The *private* sector consists of *private* entrepreneurs that decide how to govern their own relationship. Public government has no part in it. The government merely plays the part of a background actor, an element of the *institutional environment*. By contrast, in the public sector, public government is itself the entrepreneur and partner in the relationship, an element of the *institutional arrangement*.

Van Leerdam (1999) signals two elements that are typical of the public sector: the political process and the special nature of public services. These elements make a direct application of original TCE to the public sector problematic. The political process

4. This contracting schema is an extension of Williamson's simple contracting schema presented in Section 2.3

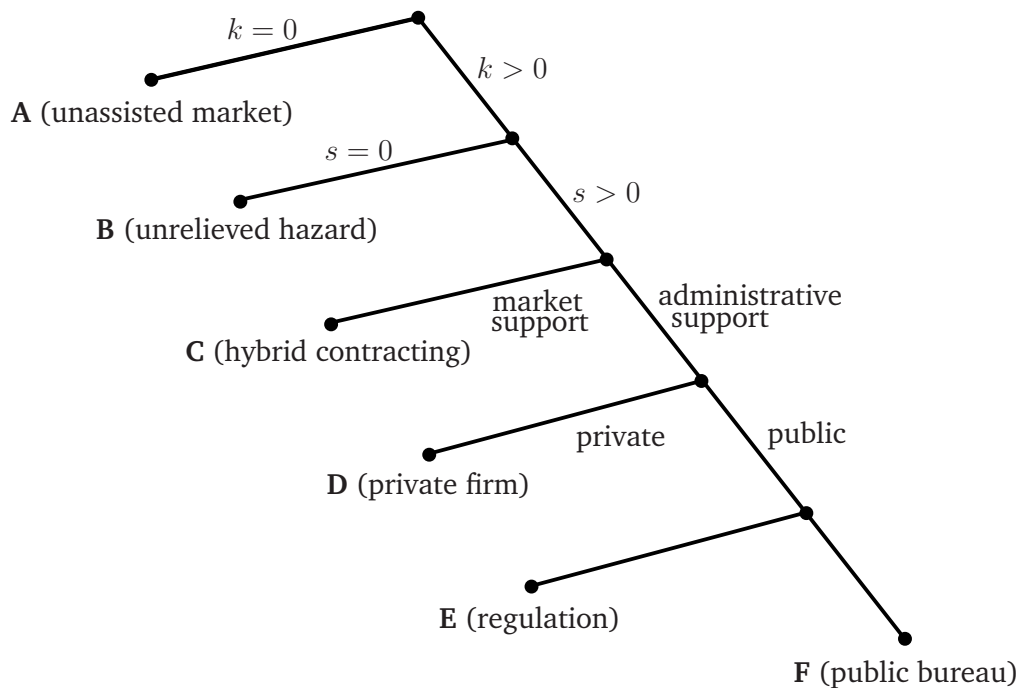


Figure 3.1: **Contracting schema extended** (where k denotes contractual hazards and s denotes safeguards) (Williamson, 1999, p. 337)

is especially relevant in *explaining* the existence of particular governance structures. As we have seen in this chapter such explanations are frequent. However, traditional TCE is not sufficiently equipped to explain why governments choose particular governance structures. Therefore, some authors introduce a political transaction costs framework (Frant (1996), Ter Bogt (2003) and Van Leerdam (1999)). This is, however, not our solution. It is our aim to explore whether the governance structures that governments choose matter for performance and efficiency of the provision of a particular public service in traditional transaction cost terms. Although efficiency and performance are not always the only or even most important criteria for governments to choose a particular governance structure, in the context of the shifts in governance that have been introduced in the past decades, striving for efficiency and a better performance are important motives. In our research, the political process is important but only as a determining factor in the institutional environment of the particular governance structure.

The second element, the special nature of public services, is of the utmost importance in our analysis, as it has a direct influence on the attributes of the transaction in the public sector. With this in mind the relevance of TCE for an application to the public sector can be considered high, but caution remains essential. In the public sector, transactions

which concern the provision of public services differ from private transactions in a fundamental way and accordingly the spectrum of governance structures available also differs fundamentally from the spectrum in the private sector. The entire spectrum of public sector activity can be conceived of as an array of transactions, each susceptible to various types and degrees of hazards (Richman and Boerner, 2006) that match with public institutions fit to minimize transaction costs. This conclusion relates to the discriminating alignment hypothesis. The next step, therefore, is to redefine the attributes of the public sector transaction and to make a more in-depth analysis of public governance structures and their defining attributes, the topic of the next chapter.

Chapter 4

Comparative Institutional Analysis in the Public Sphere

THE STUDY OF TRANSACTION COST ECONOMIZING is a comparative institutional undertaking rooted in the idea that there are a variety of distinguishably different transactions on the one hand and a variety of alternative governance structures on the other. These alternative governance structures are not examined in isolation, but in relation to one another (Macher and Richman, 2006). Matching governance structures to the attributes of transactions in a discriminating way is central to the exercise. Microanalytic attention to differences among governance structures and microanalytic definition of transactions are both needed in order for this to be accomplished (Williamson, 1999). Accordingly, the procedure we follow here is, first, to determine the microanalytic definition of the public sector transaction and to identify its attributes and, secondly, to discuss the differences among public sector governance structures. In the identification of these attributes we should observe that, in this study, we aim at an application of TCE to the Dutch local government. As we shall see, this will especially have consequences for identifying the attributes of public governance structures.

Next to the identification of attributes of public transactions and governance structures, we discuss how these two elements are aligned on the basis of transaction cost economic reasoning and put forward the question what happens if failures of alignment occur. This question is specifically relevant for public sector analysis, because in the public sector no corrective mechanisms similar to those that exist in the private sector are available. In the private sector 'market forces push decision-makers towards adopting organizational forms aligned with the characteristics of the transactions they support while reducing as much as possible the inevitable contractual hazards' (Yvrande-Billon and Ménard, 2005, p. 678). In the public sector, however, governments, not market

parties, decide how to organize the provision of specific public services. If parliament or, at the local level, the municipal council chooses so, a particular governance structure remains, even if that governance structure is not the most efficient governance structure. The absence of spontaneous market forces explains the variety of governance structures that is characteristic of the public sector.

In this chapter, building on the previous chapters, we address the first three research questions presented in Chapter 1, to wit, (1) *What are transactions in the public sector and what are their characteristics?* (2) *Which governance structures can be distinguished in the public sector?* (3) *What does TCE teach us regarding the efficiency of governance structures in the public sector attainable by matching characteristics of transactions and governance structures?*

4.1 Public sector transactions

Employing transactions as units of analysis presupposes the identification of features in which transactions differ from each other. After all, TCE assumes that there exist rational economic reasons for organizing different transactions in different ways. Before we go into the attributes of public sector transactions, we first address the question what the public sector transaction exactly is and what content it has.

4.1.1 What is the public sector transaction?

The core concern of public sector transactions is the delivery of public services. Following Savas (2000), we distinguish between the roles of three basic participants involved in the delivery of a public service: the service consumer, the service producer and the service provider. The *consumer* obtains or receives a service directly. He can be an individual, for instance, everyone residing in a defined geographic area, a government bureau or a private organization. In our case consumers are citizens. The *producer* delivers the service directly to the consumer; a producer can be a government unit, a private firm or a nonprofit bureau. In this thesis, producers can take any of these forms. The *service provider* assigns the producer to the consumer or vice versa, that is, performs the part of selecting producers factually serving the consumers. Frequently, but not always, the provider is a government unit. In this thesis, we concentrate on cases in which the service provider is a local authority.

Since TCE focuses on *make-or-buy decisions* of entrepreneurs in the private sector, we correspondingly study make-or-buy decisions of local governments in the public sector. To that end, we are primarily interested in the relationship between the service provider

and the service producer. This relationship can be analysed in terms of TCE, since it fulfils the theoretical requirement that it can be formulated as a contracting problem. Governments as providers of public services decide to either make or produce a service themselves or to buy a service from a producer that is located outside government. The consequence of focusing on make-or-buy decisions and relationships between governments and producers, is that the implications for the consumer will solely be taken into account indirectly.

What is the content of the typical relationship between the service provider – the government – on the one hand and a service producer on the other? In other words, what is the content or subject matter of such public sector transactions? The first part of the answer is that they are concerned with the delivery of certain services – for example transport, water supply or waste collection – *to the public*. However, public transactions are not primarily concerned with the delivery of certain goods or services themselves. Rather they are concerned with *the conditions* under which the goods or services in question should be provided to the public. These conditions concern, for example, features of goods or services (quality, mode of service delivery and quantity) or the optimal functioning of the market mechanism. We maintain that the primary concern is whether the *public interests* related to that good or service, are served in the right manner. In exchange for complying with these conditions, the producer is granted the privilege to deliver the good or service to the public. The content of the public transaction is thus determined by on the one side, the objective of promoting the public interest and, on the other side, the objective of obtaining the right to deliver a good or service.

4.1.2 Attributes of the public sector transaction

The importance of the public interest and the specific responsibility of the government for it, have implications for the attributes of the typical public sector transaction. In the literature discussed in Chapter 3, we have already seen that in certain contributions attributes have been added to the three attributes of private transactions that Williamson distinguishes, of which quality of a public service and service measurability are the most important ones. In our view, these attributes are highly related to the attribute of uncertainty Williamson distinguishes in the private sphere.

In contrast to the attempts at including public sector characteristics in TCE analysis by adding attributes to the transaction, we shall make an attempt at redefining the same attributes that Williamson distinguishes with respect to private sector transactions but this time around with respect to public sector transactions. In this way, attributes of public sector transactions remain basically the same as the characteristics Williamson distinguishes with respect to private sector transactions. This hopefully enables us to

keep to the same reasoning as Williamson followed in original TCE. The details of the contents of the attributes are different, however, owing to the public interests involved in public sector transactions. Furthermore, the emphasis laid on asset specificity as the most important characteristic of the private sector transaction, might be less important in the public sector, especially, when compared to uncertainty. The government as the service provider can never permit that public services are not provided and public interests not guaranteed. In this sense, the uncertainty characterizing a transaction can, therefore, get a stronger emphasis in the public sector. Below, we shall define the attributes of public sector transactions: asset specificity, uncertainty – behavioural and environmental – and frequency.

Asset specificity Recall that asset specificity refers to the question whether or not specific investments are required to produce some good or service. Specific investments apply to the production of one service but are very difficult to adapt for the production of other services. An example of asset specificity in the public sector are the highly specific investments that have to be made for the proper deliverance of public utility services, such as electricity, public transport and water. Here, often substantial investments in infrastructure or networks are necessary in order to deliver the service to the consumers. Mostly, such investments cannot be put to alternative uses or they have a lower value in their next best use. This effectively locks government and producer into a bilateral trading relationship (Crocker and Masten, 1996).

Human asset specificity consists largely in tacit knowledge and learning-by-doing that can only accumulate over time. In the public sector, this can be seen in, for example, health care in which physicians in different hospitals have different practice patterns of treatment and methods of diagnosis (Coles and Hesterly, 1998). The knowledge gained from working in one hospital may not be transferable to another hospital.

Uncertainty In TCE, uncertainty often is not a well-defined attribute of the transaction. As was discussed in Chapter 2, uncertainty refers to both behavioural uncertainty and environmental uncertainty. Behavioural uncertainty is related to ex post opportunistic behaviour of one of the partners in an exchange relationship. Environmental uncertainty refers to unexpected changes in circumstances surrounding an exchange. In the public sector, both factors determine the extent to which parties – providers (governments) and/or producers – can rely on their relationships. The two general forms of uncertainty can be further specified to define public sector uncertainty.

Behavioural uncertainty This type of uncertainty represents the measure of uncertainty facing the service provider, the government, regarding the behaviour of the service producer. This aspect of uncertainty definitely has a behavioural foundation (Macher and Richman, 2006). This can be related to ‘the degree of specifiability of intended performance’ (Speklé, 2001, p. 421) and probity (Williamson, 1999). The degree of specifiability concerns the ability to identify and measure output. The less well-defined the good or service is, the more difficult it will be to write the specifications of a contract (Warner and Hebdon, 2001), to evaluate the performance of the producer (Donahue (1989), Marsh (1998) and Ter Bogt (2003)) and to assess the relative contribution of various parties to the (negative) outcome (Coles and Hesterly, 1998). ‘Consequently, parties to the contract have opportunities to engage in the strategic withholding of critical information or to engage in efforts to evade performance’ (Richman and Boerner, 2006, p. 55). This is specifically relevant in the context of the public sector in which public interests are difficult to define. One can think of the quality of a good or service which is typically difficult to specify and evaluate (Grout and Stevens, 2003). ‘The “what” can usually be specified, whereas the “how” and the “quality” usually cannot be to the same extent, if at all’ (Thynne, 2003, p. 328). The impact of the quality of goods and services on contracting decisions is slightly overlooked in TCE (Coles and Hesterly (1998) and Levin and Tadelis (2005)). Yet, when the importance of quality is combined with measurement problems, contracting proves to pose special hazards (Coles and Hesterly, 1998, p. 317). Bréchemier and Saussier (2001) address the problem as the ‘non contractibility’ of a good or service, while Brown and Potoski (2003c) speak of the problem of ‘service measurability’. TCE acknowledges the role of measurement in determining the efficiency of modes of governance, but it has been comparatively ignored in the empirical literature (Poppo and Zenger, 1998). This part of uncertainty strongly relates to the measurement branch of TCE (Barzel 1982 and 2005). This branch is often distinguished from the governance branch of TCE. By interpreting uncertainty partly in terms of measurement, these two branches can be integrated¹. Measurement problems can be decisive for the choice of a governance structure, irrespective of the degree of asset specificity (Hendrikse, 1998). In this study, we shall refer to this aspect of behavioural uncertainty with the term *service measurability*.

Probity is the second aspect of behavioural uncertainty. Williamson ascribes the hazard of probity as a fourth characteristic, referring to the loyalty and integrity of offi-

1. Williamson himself makes the case for an integration when he states that an integrated treatment of governance and measurement is ultimately needed (Williamson, 1996, p. 65). Elsewhere, he maintains that the principal dimensions of the transaction are asset specificity, uncertainty and frequency, to which ease of measurement should probably be added (Williamson, 1991b, p. 79), but he never really includes it in his analysis. Ribeiro and de Aquino (2004) follow the notion of complementarity and propose a merger of the two approaches.

cial, which would be typical of public transactions (Williamson, 1999). We regard it as a specific form of behavioural uncertainty which is specifically important in relation to sovereign transactions such as foreign affairs, the military and foreign intelligence. When these types of public services are concerned, a lack of loyalty and integrity can place the system at risk. Probity concerns will be relieved by governance structures securing responsiveness to the government through leadership and management emphasizing this aspect.

Environmental uncertainty The predictability of the environment in which the contract is to be executed is the other factor causing uncertainty. In general, environmental uncertainty is defined as the unanticipated changes in circumstances surrounding an exchange in reference to changes in the environment due to future events (Macher and Richman, 2006). In the public sector, environmental uncertainty is a consequence of a variety of factors. In our view, the following factors can be distinguished. The first factor causing uncertainty is the public, the consumers of the public service. The second factor is the political process which is influenced by the first factor. The third one causing uncertainty are demands and policy imposed on the local government level by higher levels of government. The first two factors are addressed in several ways in the literature. Levin and Tadelis (2005) introduce the sensitivity of the public and authorities to the quality of a service. Nelson (1997) pays attention to political sensitivity of a particular good or service and the significance of public service disruption, while Kavanagh and Parker (1999) introduce political risk. We shall summarize all these aspects in the term *political sensitivity* referring to the susceptibility of residents and, consequently, politicians to the quality of a public service (including the disruption of a service). This leads to uncertainty for both parties in relationships – service providers and service producers. The uncertainty at issue concerns the opinions of the third party involved in the delivery of a public service, the public, which is the consumer of the public service.

The third factor causing uncertainty at the local government level are the rate of technological change for each service and demands from higher levels of government – national government and provincial authorities – and policy imposed on the local government level. The faster technology and national policy changes, the more uncertain the environment, the more difficult contracting becomes.

Frequency The frequency of transactions in the public sector is often high because public service provision is a recurring responsibility of governments. If frequency is high, it is not a decisive attribute of the public transaction. If a public service is less frequently provided, it is more likely to be contracted out (Levin and Tadelis, 2005). Levin and Tadelis

(2005) observe that such services have less of a ‘public good’ nature or are viewed as less ‘core’ to the public mission of local governments.

The three attributes discussed here cause contractual hazards. In light of the resulting transaction costs involved, efforts to minimize these contractual hazards gain in importance (Richman and Boerner, 2006). Safeguards against the contractual hazards at issue can be described as mechanisms to provide contracting parties mutual security (Bréchemier and Saussier, 2001). They generate trust and permit adaptations to unforeseen contingencies. The safeguards can take various forms leading to a spectrum of public sector governance structures, which are discussed in the next section.

4.2 Public sector governance structures

Following on the identification of the attributes of the public sector transaction – the first step of the procedure – we make the second step by defining public sector governance structures and identifying their attributes. To that end we shall first of all pay attention to the specific place of government in structures of this kind.

The public sector is characterized by the fact that the government is part of the *institutional arrangement* itself. Institutional arrangements or governance structures are specific guidelines designed by trading partners to support their *particular* economic relationships (Klein, 2000). In the public sector, the government is one of the partners in exchange relationships. More specifically, the government can be viewed as an ‘entrepreneur’ who must take decisions on whether to make or buy public goods or services. This means that the government is responsible for deciding on whether to contract out to a private firm (buy), to keep the delivery of certain goods and services in its own hands (make) or to choose a governance structure that lies in between.

As a public entrepreneur in this sense, the government acts in a context that is basically different from the context in which private entrepreneurs act. The government is subject to many strict constraints and can therefore, compared to private entrepreneurs, be viewed as what we can call a ‘fettered entrepreneur’. Constraints are, for example, the government’s subjection to the principles of legal certainty, legal equality and good government. Furthermore, the political process poses constraints. On the other hand, the government also has opportunities which a private entrepreneur in the private sector lacks. Law is often unilaterally imposed by the government. Another important element is the fact that in any relationship with other parties, the government has a privileged

position on account of its provision of a good or service for the benefit of the public. In contrast to the private sector, where parties are legitimated to serve their own interests, in the public sector, the public interest requires a certain minimal protection by one of the parties, namely the government. This is the reason why the provision of public services cannot be entirely left to the private sector. At most, a private firm can be granted monopoly rights over such services for a certain restricted stretch of time. As providers of public services, governments have the task of defining the principles governing the service. These considerations indicate the spectrum of public sector governance structures.

The public sector consists of a variety of governance structures. Williamson (1999) distinguishes three basic forms, to wit, privatization, regulation and public bureau, which can be arranged as a spectrum. *Privatization* and *public bureau* constitute the extreme poles of this spectrum. Located in between is *regulation*, which shares characteristics of both other governance structures. These forms vary, according to Williamson, in incentive intensity, bureaucratization, adaptive autonomy and integrity, and contract law (see Table 3.1). This spectrum provides an important contribution to arranging and distinguishing between public sector governance structures, but is not adequate for analysis of Dutch local level governance structures, the focus of our study. Especially, regulation, as defined by Williamson, is a governance structure that can be generally observed in the American public sector at the federal and state levels, but not at European local government levels. Furthermore, the characteristics in which the public sector governance structures vary, reflect the way in which American public governance structures can be distinguished. This is, however, not representative of Dutch public governance structures. Particularly, the attribute of contract law is based on the American situation. For example, the degree of security of staff employment and the way in which disputes are settled differ from the Dutch local government level. Therefore, we must define a spectrum of public sector governance structures geared to the Dutch local government level and identify the attributes of these governance structures.

4.2.1 A spectrum of local governance structures

The spectrum of public governance structures has been specified by several authors in a way that reflects the local government level in different countries. Ménard and Saussier (2002) differentiate between three families of arrangements based on the French situation. The first one is that of public bureaus involving direct ownership and control by local authorities. The second mode of governance is characterized by the involvement of an external partner, a private operator acting as a manager, while the assets related to the provision of a public service remain publicly owned. The third family of arrangements concerns franchising, a contractual arrangement in which the franchiser, i.e. the

local government, delegates to a franchisee, i.e. a private operator, the responsibility for providing a public service. Walls et al. (2005) differentiate between a variety of market arrangements through which local governments in the United States provide public services, ranging from pure public monopoly to an approach using several competing private firms. Between these extremes are two types of private monopoly: a contract arrangement between the local government and a private firm and a franchise arrangement, whereby the local government awards a single firm the right, usually through a franchise fee, to provide a service in a given area. These spectra of public governance structures can both to some extent be used to describe the Dutch local level. There are, however, some differences. Ter Bogt (2003) develops an ‘autonomization spectrum’ for the Dutch public sector. He distinguishes between eight forms, running from central governance (hardly any or no decentralization) to relinquishing (no special governmental involvement with activities). This spectrum, however, consists of too much detail to be useful in the application of the *discriminating alignment hypothesis* later in this study. This requires a compact manner of classifying transactions and governance structures (Dow, 1987). Furthermore, not all modes of governance can be generally observed at the local level. Therefore, we turn to an overview of Van Thiel (2001) of the variety of types of governance structures that exist at the Dutch local government level². Based on this overview, we shall distinguish between the following discrete modes of governance at the local level: public bureau, external autonomization and contracting out. These modes of governance can be defined as follows.

A **public bureau** is any distinct part of the municipal organization. A unit of this kind can be more or less independent. From a legal point of view, the degree of dependency does not affect the responsibilities of the municipal executive, neither in the field of private law nor in that of public law. Internal autonomization, including self-management³ and contract management⁴, leads to more freedom to manage for managers of units. Agreements on managerial freedom are often laid down in a document, which specifies tasks, budgets and sometimes also results (output) or targets that have to be met (Van Thiel, 2004). All in all, this mode of governance – the public bureau – is, irrespective of

2. There is yet no systematically collected information on the number and types of governance structures at the local government level (Van Thiel, 2004). In an overview, Van Thiel (2001) makes an attempt to fill this gap by a meta-analysis of available case studies of local governance structures.

3. This concerns divisions with a limited degree of decentralized control of inputs (Ter Bogt, 2003). The head of the division often becomes budget holder. The municipal secretary contracts with the budget holder who is bounded by his budget, but is free in how to spend it.

4. This concerns divisions with a limited degree of decentralized control of inputs, some freedom with respect to ways of achieving outputs and more or less clear agreements on activities or outputs to be achieved. A few times a year the head of the division has to report on performances and costs. He is authorized to determine himself how to spend the available resources to achieve performances as agreed upon (Ter Bogt, 1998).

different possible forms of managerial freedom, a hierarchical mode of governance. In this case, the government ‘makes’ the provision of the public service itself. The parts of service provider and producer coincide.

External autonomization involves charging a separate organization, at arms’ length of the local administration, with policy implementation. In general, this means that the elected politicians’ direct control of certain tasks or activities diminishes (Ter Bogt, 2003). Two forms can be distinguished (Van Thiel, 2004). Municipalities can cooperate with other local governments. Inter-municipal cooperation on the basis of public law is possible on the basis of the Act of Common Arrangements⁵. In that case municipalities establish an inter-municipal partnership which can take the form of a public body or joint organ. The participating municipalities are members of the board of this public body or joint organ (Article 8 Act of Common Arrangements). Based on private law, municipalities can, individually or jointly, establish public companies, associations and foundations for policy implementation or charge existing organizations with that task. Public companies⁶ and foundations are the preferred organization forms. Foundations are non-profit organizations and are, therefore, often used in case of organizations with an idealistic aim. Tasks and powers of the foundation and the composition of the board are described in the charter. Public companies are business organizations that are owned and governed (more or less at a distance) by one or more local governments. The business organization is legally as well as economically independent (Künneke, 1991). The municipality maintains a decisive influence by holding shares and the right to appoint part of the members of the management and the Board of Supervisors (Schotman et al., 2000). Usually, the company performs a well-defined public task (Ter Bogt, 2003), which is laid down in a charter. Local authorities are shareholders of the company and at the same time have as principals a long-term contractual relationship with the public company as their agent. This mode of governance is one in which government buys the production of a public service from a separate organization. Service provider and producer are different organizations. It has, however, hierarchical elements. In case of inter-municipal partnerships, the municipal authorities of the participating municipalities have final responsibility on the basis of their membership of the board of the public body. In case of a public company, municipalities are shareholders and, in that sense, they are able to influence the organization.

In case of **contracting out**, activities are most often conducted by private organizations⁷, but the local government is still as a principal engaged in the activities (Ter Bogt,

5. In Dutch *Wet gemeenschappelijke regelingen*.

6. In this study we use the term public company. Other terms are limited companies or public limited liability companies.

7. Local governments can, however, also contract out to public companies or municipal services in case

2003). In that case, the local government contracts with a private organization to perform the tasks. We can distinguish between contracting out and granting concessions⁸. Contracting out refers to commissioning a private organization to perform a specific public assignment. The private organization is often selected by putting out a tender. This is also true in case of a concession. However, then the tender does not concern a specific public assignment, but the supply on a specific market. In case of a concession a local government awards a single firm the exclusive right, usually through a franchise fee, to provide a service in a given area. Under a concession the firm directly invoices and collects payment from households and businesses. Under a contract, the government invoices and collects payments from its citizens, and in turn reimburses the contractor. It is clear that in this mode of governance, government buys the production of public services from an external organization, a private company. Service provider and producer are different organizations.

4.2.2 Attributes of public governance structures

Local public governance structures can be characterized using a complex of attributes. As stated earlier in this section, the attributes introduced by Williamson are only to some extent applicable to Dutch local public governance structures. These attributes are incentive intensity, bureaucratization, adaptive autonomy and integrity, and contract law (see Section 3.1.2). Incentive intensity is the degree to which a party reliably appropriates the net receipts associated with its efforts and decisions. Bureaucratization refers to the measure of administrative support. Both attributes determine the way in which adaptation takes place, namely rather autonomously (i.e. adaptive autonomy) or through coordination (i.e. adaptive integrity). Contract law is defined in terms of a complex of attributes, to wit, the employment relation consisting of executive autonomy and staff security, and legalistic dispute settlement. Especially, the attribute of contract law has to be redefined for the Dutch case and the values on the attributes must be revised. Therefore, we modify Williamson's characterization of public governance structures. To that end, we use the variation among contracts as given by Ménard (2000). He summarizes the variety in terms of four factors: (1) duration (which is considered as a proxy for signaling commitment of partners), (2) degree of completeness with regard to variables of adaptation: prices, quality, quantities, delay and penalties (which is a tradeoff between security required by substantial dependency and flexibility required by changing circumstances), (3) incentives: piece-rate systems, hourly wages, share distribution to employees, returns on assets paid to owners, and rent dividend among partners to a

they win the tender.

8. This is also known as franchising.

joint project, and (4) enforcement procedures such as dispute settlement.

The four factors Ménard (2000) distinguishes can be integrated with Williamson's characterization of public governance structures or, more specifically, the attribute of contract law. Based on this, public governance structures can be characterized by the following attributes:

- Incentive intensity
- Administrative support
- Contract law: duration, degree of completeness, dispute settlement and enforcement procedures
- Performance attributes: adaptive autonomy and adaptive integrity.

These attributes can be used to characterize the local governance structures we distinguished in Section 4.2.1.

Contracting out On the one extreme, contracting out scores high on incentive intensity and low to average on administrative support. Incentive intensity is high compared to the other modes of governance in that governments put the production of a service out to tender. Usually, the lowest bidder gets the award. With regard to administrative support, partners to the contract hold regular consultations and often there are additional enforcement procedures such as monitoring arrangements.

Contract law regarding contracting out can be characterized in terms of four factors. Contracts differ in *duration*, but are generally short-term for a fixed number of years. With regard to *degree of completeness*, contracts can be characterized as highly complete. Every aspect of the production of the public service, for example quantity and quality, is meticulously specified in the contract. The contract governing the exchange is seen as fixed, and if performance according to specification fails to occur, damages can be claimed. Some small additional agreements can be reached during the contract, but substantial readjustments are excluded. Readjustments only take place in periods between two transaction agreements. *Dispute settlement* takes place through third party involvement such as arbitration and court orders. Finally, *enforcement procedures* consist of monitoring arrangements and reporting duties.

In conclusion, the measure of adaptation in this mode of governance can be characterized with a high level of adaptive autonomy and a low to average level of adaptive integrity.

Public bureau On the other extreme, the public bureau scores low on incentive intensity and high on administrative support. This is a consequence of the fact that public bureaus are part of the internal organization of the municipality and, therefore, subject to hierarchical control.

To characterize contract law of the public bureau, we discuss the four factors mentioned before. The *duration* of the relationship is quasi-permanent. It is an undetermined period of time, but municipal authorities can, for example, decide at some point in time to privatize the municipal service. The *degree of completeness* in case of a public bureau is low. Subsequent readjustments within a series of transactions are effected through fiat or, in other words, by means of authority. The advantage of vertical integration is that readjustments can be made in a sequential way without the need to consult, complete or revise agreements between contracting partners (Wise, 1990). *Disputes* are settled without recourse to the judicial system. They will be solved internally, by hierarchy 'operating as its own court of appeal' (Williamson, 1991a, p. 274). The last factor determining the content of contract law is *enforcement*. This takes place on the basis of hierarchical authority.

All in all, this means that the measure of adaptation in this mode of governance can be characterized with a low level of adaptive autonomy and a high level of adaptive integrity.

External autonomization In between these two extremes, external autonomization is situated, consisting of two modes that differ in certain ways, as is described above, but are basically similar with regard to the attributes we distinguish here. These modes of governance share characteristics of both the public bureau and contracting out. They constitute long-term contractual relationships that preserve autonomy but provide added safeguards because parties to the contract are multilaterally dependent.

This involves a low to average level of incentive intensity and an average level of administrative support. The level of administrative support is viewed as average because governments are, to some extent, able to influence the organization of the external service producer. In case of a public company, governments have crucial powers by virtue of their shareholdership (Sylvester (2003) and Ten Berge et al. (2000)). For example, they have powers to appoint and discharge the board of directors and the Supervisory Board of the public company and to influence the main lines of its strategic policy. In case of inter-municipal cooperation, the participating municipalities are members of the board of directors of the public body and have final responsibility. The level of incentive intensity is low to average. This in fact only applies to the public company, in which piece-rate systems and hourly wages can be used and in which partners to the project

4.3 Aligning transactions and governance structures in the public sector

With the identification of the attributes of public sector transactions and public sector governance structures in the previous sections, the question in this section is: How do transactions and governance structures align in the public sector? As Macher and Richman (2006, p. 5) state:

To use a simple mode of governance to manage a complex transaction would be to risk contractual breakdown, whereas to use a complex mode of governance to manage a simple transaction would be to incur costs without gain.

To address the question of alignment between transactions and governance structures hypotheses have to be formulated that explain how a proper alignment of governance structures with a particular transaction generates a transaction cost economizing result. To that end, we shall return to the assumptions of original TCE presented in Section 2.4.

4.3.1 Alignment

Contracting out is to be expected for transactions that score low on asset specificity. In case of low asset specificity, the investments required are of a general kind, not involving assets that are necessarily tailored to the provision of a particular kind of public service. Low asset specificity implies the availability of a large number of alternative contracting parties and low switching costs. If the level of uncertainty, in addition, is low to moderate, contracting out still is the fitting governance structure. Contracting out is more effective and consequently more pervasive for services whose quality and quantity can be easily and accurately measured. ‘The easier it is to measure and verify contract stipulations, the more readily can contracts be enforced. It is predicted that as the costs of measurement and of verification decline, transactors will use contracts more often and engage in vertical integration less often’ (Barzel, 2005, p. 368-369). Furthermore, if environmental uncertainty is low as a consequence of a low level of political sensitivity, few changes in the institutional environment are to be expected, which makes contracting out feasible. Finally, if frequency is low, contracting out is the appropriate form. Frequently returning negotiations on specific transactions leading to high transaction costs are not to be expected in that case and other modes of governance would lead to high costs of administrative controls. If frequency is high, the other attributes of the transaction are decisive in choosing the matching governance structure.

Compared with contracting out, external autonomization provides additional safeguards such as a higher level of administrative controls. These safeguards serve to en-

force compliance with the terms of the contracts. This is an appropriate form in situations marked by mixed specific investments. In order to induce firms to make firm specific asset investments, contractual safeguards are often required. Specifically, a longer duration of the contract is an important safeguard in that respect. However, if the level of uncertainty, in addition, becomes too high, these modes of governance are less appropriate, because readjustments cannot be made bilaterally (as with contracting out) or by fiat (as within a public bureau) but require mutual consent between governments and the external organization, which may take too much time. If in a hybrid mode readjustments to disturbances are with difficulty negotiated only to be eroded by the first subsequent disturbance requiring the next round of negotiations, failures of readjustment are predictable (Williamson, 1991a). In such cases, contracting out is better suited than a public company, whereas a hierarchy is more effective than the two other governance structures.

The public bureau mode excludes the typical conflicts of interest between contracting parties in the modes of governance discussed above. This governance structure invites cooperation and demarcates a large zone in which choices can be made and changes can be implemented by simple managerial fiat. Reliance on managerial discretion affords significant decision making flexibility and permits sequential adaptation. It also allows for the incorporation of aspects of performance that are less easily made explicit, thus avoiding a myopic pursuit of predefined incomplete standards. This form is to be expected in cases marked by high levels of asset specificity and high levels of uncertainty. High asset specificity implies a decreasing number of potentially competent contracting partners and an increasing dependency on those few partners that are in fact available. This will leave room for opportunistic behaviour, which in turn requires special safeguards in the form of hierarchical control. Although highly asset specific services can appear to be self-evident candidates for internal production, their high fixed costs may compel governments to let these services produce externally (Brown and Potoski, 2003c). Highly asset specific services tend to carry very high fixed costs that require significant financial investments to produce the first unit and provide large-scale economies for subsequent units. Local governments have not always the resources to construct, maintain and operate such units. When uncertainty is high as a consequence of an extremely low service measurability – that is, when contract outcomes cannot be determined and/or measured and governments cannot monitor activities – governments are likely to internalize service production. When contributions from an outside producer cannot be accurately assessed, adequate contracts will be costly to craft. Furthermore, in cases of high political sensitivity, the unstable institutional environment requires the flexibility only a public bureau can offer. Each of the two mentioned attributes can independently of the other attribute be decisive in the choice for the public bureau. For example, even if asset specificity

is low, while uncertainty is high, a public bureau may be the most suitable governance structure, because the costs of insufficient quality of a particular public service or the disruption of a service because its performance and quality are hard to measure, are too high.

4.3.2 Misalignment

What happens when misalignment occurs between public sector transactions and governance structures chosen by local government? Transaction cost efficiency is pertinent to the explanation of the proper match between governance structures and transactions. However, according to Williamson (1996, p. 311), we are not confronted with a fully deterministic (Speklé, 2001) relationship:

This economizing orientation notwithstanding, transaction cost economics does not assert, much less insist, that economic organization is relentlessly taut. To the contrary, if economic organization is formidably complex, which it is, and if economic agents are subject to very real cognitive limits, which they are, then failures of alignments will occur routinely.

This is true in general, but in particular in the public sector. Failures of alignment occur because efficiency – in terms minimizing transaction costs – is not the only reason for making shifts in governance and choosing particular governance structures. As stated in Chapter 3, historical reasons and political arguments also play a role in the decision-making process and can explain ‘failures’. Furthermore, there are no obvious mechanisms to correct misalignments (Yvrande-Billon and Ménard, 2005), as they exist in the private sector. Therefore, a great variety of governance structures can be observed at the local government level, especially with regard to certain specific public services. According to TCE, the inevitable misalignments lead to ‘[e]xcesses of waste, bureaucracy, slack, and the like’ (Williamson, 1996, p. 311).

So, the theory predicts that aligning transactions and governance structures leads to a transaction cost economizing result. Furthermore, it predicts that aligning transactions in an economizing way yields superior performance. Many empirical studies in TCE do not serve to verify or falsify these predictions but are restricted to attempts at explaining contractual choices that have actually been made. The empirical findings of these studies are mixed. Yet to some extent they can be considered to be supportive of transaction cost propositions (see Section 2.6). More specifically, empirical research to date supports the view that transaction cost considerations influence organizational choices and that the theory is therefore a useful tool for understanding and explaining the choice among organizational alternatives (Masten, 1993). Similarly, TCE analysis also appears to be

valuable in the public sector (see Sections 3.1 and 3.2). Empirical studies of the private sector show that contractual choices correspond to what the theory predicts and infer from this that these choices must have been efficient, that is to say that transaction costs must actually have been minimized. But they rarely provide hard evidence supporting this conclusion by showing how much is lost by going from the best to the next best institutional arrangement (Joskow, 1991). As discussed by Masten (1993, p. 119):

the existing empirical research tells us surprisingly little about the importance of governance to performance. In economics, the emphasis on positive analysis has led to hypotheses and empirical research seeking to explain actual patterns of organization. But whether a theory of governance choice is a good predictor of actual behaviour reveals little about the cost of failing to choose the correct organizational arrangement and may be a poor guide to whether a particular theory offers sound prescriptions for business decisions.

A next step would be to connect observed ‘misalignment’ – identified on the basis of the theory’s predictions – with observed performances (Yvrande-Billon and Saussier, 2005). Studies that address this topic, though limited in number and scope, suggest that organizational form (and organizational choice more generally) has a significant impact on efficiency (Masten et al. (1991) and Crocker and Masten (1996)). In addition, some research supports the hypothesis that alignment yields superior performance (Yvrande-Billon and Saussier (2005), Ménard and Saussier (2002) and Poppo and Zenger (1998)) and that misalignment between governance decisions and the degree of contractual hazard deteriorates performance (Yvrande-Billon and Saussier, 2005). This type of research is called ‘second generation’ empirical research (Yvrande-Billon and Saussier, 2005). In this thesis, we hope to contribute to this line of research.

4.4 Conclusion

In the public sector, TCE and second generation TCE research can offer insights into the relative efficiency and performance of governance structures at the local public level. They can offer a cautious and selective program of privatization, with greater attention to implementation (Williamson, 2000). Especially when serious ex post implementation problems are possible (Williamson, 2000, p. 610):

Specifically, privatizing needs to go beyond the ex ante award stage to include an examination of possible ex post implementation problems, and in consideration of the differential hazards, to proceed selectively. NIE [New

Institutional Economics, MvG] is informative and should be included as part of the reform calculus.

On the basis of original TCE, we have defined and classified the attributes of public sector transactions and the spectrum of local governance structures and its attributes. With this, we have addressed the first two research questions of this thesis, that is *What are transactions in the public sector and what are their characteristics?* and *Which governance structures can be distinguished in the public sector and what are their characteristics?* Following this, we have identified how alignment of transactions and governance structures in the public sector can be addressed. With this we have addressed the third research question: *What does Transaction Cost Economics teach us regarding the efficiency of governance structures in the public sector attainable by matching characteristics of transactions and governance structures?* In practice, many failures of alignment will occur, also at the local level, our focus of study. In our work we also hope to be able to determine whether or not misalignment leads to a lower level of performance and higher transaction costs. This analysis can bring more clarity regarding Williamson's optimistic expectations concerning the relevance of new institutional economics and, in particular, TCE to public sector reforms.

Chapter 5

From Theory to Practice

PREVIOUS CHAPTERS HAVE BEEN predominantly theoretical in nature. This chapter aims at making the step from theory to empirical research. The ultimate goal of this study and, therefore, also of the empirical research conducted in support of it is to provide an answer to the question what the discriminating alignment hypothesis can contribute to comparative assessments of the efficiency and performance of governance structures at the local public level. In the empirical part, this question can be formulated more specifically. The question then is basically whether alignment matters. When alignment is achieved, the characteristics of the transactions and the characteristics of the governance structure correspond to each other. Misalignment occurs when there is no agreement between the characteristics of the transaction and the governance structure. In Chapter 4, we described when alignment between attributes of public sector transactions and governance structures is expected. This serves as a starting point for our empirical study with which we aim to add to second generation empirical studies.

What may explain why the discriminating alignment hypothesis and its consequences on governance efficiency as developed by Williamson have not been directly tested is the level of difficulty of constructing tests that are able to cope with the required data (Yvrande-Billon and Saussier, 2005). Furthermore, it is a problem to collect data necessary to determine governance efficiency. Costs of transacting are difficult to observe and measure. Many hazards of exchange are either implicit or latent in the transaction. And others, while manifest, are often difficult to quantify (Masten et al., 1991). In addition, attempts to compare the costs of transacting face a basic selection problem: transaction costs cannot be directly observed for governance structures that have not been chosen. Stronger tests of the theory, and estimations of the actual governance costs, are possible only if the selection problem can be resolved (Masten et al., 1991). Actually, it is for these reasons that within TCE reduced form analyses are conducted with the discrim-

inating alignment hypothesis as a basis. Williamson's operationalization made formal statistical testing of transaction cost propositions possible. As discussed in Section 2.5, this is, however, no longer seen as satisfactory. TCE is in need of evidence corroborating the assumption that aligning transactions and governance structures leads to a transaction cost economizing result and a better performance (see for example Joskow (1991) and Masten (1993)). Solving this problem is possible when we can obtain data or proxies for the costs of governance structures that are chosen (Masten et al., 1991).

The selection problem addressed by Masten et al. (1991) can be solved by studying modes of actual governance. In the public sector, this problem can be addressed by studying such modes at the local government level. This level provides a rich spectrum of institutional arrangements for one type of transaction. These spectra of different arrangements for types of transactions are not identifiable at the national level of one single country. The selection problem could also be addressed by focusing on a comparison of modes of governance in different countries. However, an argument against an international comparison is that the comparability of transactions is a problem. Every country differs in the way public services are provided and the kind of public services that are provided. Second generation research requires the study of a variety of governance structures, while holding the transaction fixed. For, if the attributes of the transaction do not remain invariant when one governance structure is replaced by the other, the transaction costs involved are meaningless (Dow, 1987). With regard to public services at the local government level in one country, the institutional environment is relatively stable and similar for each local authority. The municipalities have, in general, the same specifically defined responsibilities and obligations in providing public services. The comparability is, therefore, high, which makes this level of government well suited for our purpose.

The main propositions of TCE that rest on the discriminating alignment hypothesis are twofold. The *first proposition* has the form of a prediction to the effect that agreement between transactions and governance structures will lead to a transaction cost economizing result. The *second proposition* has the form of a prediction to the effect that such a transaction cost economizing result will lead to a better performance. These two predictions are the core of the empirical study. To test these predictions we analyse the transaction cost economizing result and the performance of *one* type of transaction under alternative modes of governance.

In this chapter, we discuss the research design of the empirical part of this thesis. We describe the case study design, the case selection, the operationalization of TCE's concepts treated as independent and dependent variables, the data collection and some methodological caveats.

5.1 Case study design

A variety of research methods is used in TCE's empirical literature. Ménard (2001) classifies different types of studies. He distinguishes between quasi-experimental methods, to wit, econometric testing and case studies, and experimental methods. With regard to quasi-experimentation, the dominant form of testing is along the lines of formal statistical testing (see reviews of Shelanski and Klein (1995), Crocker and Masten (1996), Macher and Richman (2006) and Klein (2005)). Qualitative case studies are less common. An example is Williamson's study of franchise contracts on the provision of cable television (Williamson, 1976) (see Chapter 3). Two types of case studies can be distinguished in new institutional economics (Ménard, 2001). One type is the single case study concerning the construction of a stylized particular fact and is intended to provide an in-depth analysis of a specific question and of explanatory concepts relating to this question. A problem with such single case studies is that it is always possible to find details contradicting explanations that present themselves; hence the necessity of a robust theory to determine the interpretation of the singular facts. An alternative is a comparative case study of two or more particular cases. This type of case study is especially relevant in the new institutional economics because of the need to deal with a limited number of discrete modes of organizing transactions. A growing number of studies in the new institutional economics proceed in a comparative way, either in analysing the trade-offs among different governance structures or in examining and explaining the impacts of different institutional environments on the governance modes chosen for organizing transactions. An essential precondition for this approach to be successful is that the researcher keeps a limited number of variables isolated and under strict control. Admittedly, it is difficult to fulfil this precondition. The third method, explored more recently in the new institutional economics, is experimentation. One could, for instance, conduct controlled experiments in which organizational forms are randomly assigned to transactions. The cost of varying organizational form in real-world experiments is prohibitive, however, while laboratory experiments are unlikely to capture the complexity that makes organizational choices problematic (Masten, 1993).

Let us now turn to the method of the case study we use in this study. Although the current dominant form of testing in TCE is along the lines of formal statistical testing – in public as well as private sector TCE studies – TCE itself in its early stage evolved on the basis of case studies in the private sector. These studies enabled Williamson and others to conduct econometric research. In public sector studies, case studies in order to get an insight into the mechanisms and specific character of the public sector are rare. The consequence is that public sector characteristics do not get the attention they deserve in econometric analyses. The case study may help in filling this gap and may provide

an important and necessary complement to formal statistical analyses of organizational form (Masten, 1996b). Ménard (2001) underlines this by pointing out that econometric tests have their characteristic shortcomings. He observes two major problems. First, the collection of data is a problem, since the amount of required data both at the micro level and the level of the institutional environment is vast. Data limitations become more acute as the complexity of the phenomena explored increases. While previously transaction cost analyses sought mainly to explain binary (make or buy) choices between broad organizational categories, theoretical attention has now to a much greater extent shifted to hybrid forms. The variety and complexity of these institutions can quickly outstrip the amount of relational detail accessible on a broad scale (Masten, 1996b). The generality associated with statistical analysis often comes at a price in terms of the range and complexity of the phenomena that can be studied and the quality of the information. This can be observed in the studies discussed in Chapters 2 and 3. This is especially the case in the public sector in which governance structures are often complex and hybrid. Secondly, the demand for more refined concepts is an important challenge to make the collection of relevant data possible. Examples are the concepts required for the analysis of contracts and the attribute of uncertainty inherent in transactions. Some researchers have difficulties in operationalizing TCE's core concepts. Case studies can be of great help here (Ménard, 2001). This is even more so in second generation research, in which data have to be collected on transaction costs and performance (Masten, 1996b).

As Ménard (2001, p. 89) observes, 'economists do not like case studies'. They are often disparaged on the grounds that they lack generality and invite ex post rationalization. Such concerns must be weighed, however, against the limitations of statistical analysis and the richer perspective that case studies can offer (Masten and Saussier, 2002). However, what case studies lack in generality they make up in-depth (Masten, 1996b). Data and measurement problems that tend to cripple econometric analysis can be avoided by an intensive scrutiny of a single case or a small number of cases (Masten and Saussier, 2002). Although case studies cannot disprove the general validity of a theory (Masten, 1996b) and while some scholars are of the opinion that systematic statistical analysis is the only road to truth in social sciences (see King et al. (1994)), King et al. (1994) maintain that neither quantitative nor qualitative research is superior. As long as the rules of scientific inference are followed, the two are equivalent. Case studies can provide an important and necessary complement to formal statistical analyses of organizational form (Masten, 1996b).

The first type of case studies discussed by Ménard (2001) does not lend itself easily for helping to find answers to the question that concerns us. Therefore, we use the second type, the comparative case study (or focused comparison approach (Denters and

	Institutional arrangement A	Institutional arrangement B	Institutional arrangement C
Transaction T	transaction costs and performance under A	transaction costs and performance under B	transaction costs and performance under C

Table 5.1: Research design

Mossberger, 2006)). This provides an in-depth analysis of a limited number of cases. In our view, a comparative case study can be a fruitful approach in TCE for analysing the efficiency and performance of governance structures and determining the effects of alignment. It could even be held that in TCE efficiency and performance can only be determined on a comparative basis. As described in Chapter 2, TCE analysis is by definition comparative in nature where its methodology prescribes comparisons between feasible alternatives. In this respect, our research is part of the series of existing comparative studies that analyse the trade-offs among different governance structures. However, instead of using statistical analysis, we shall use a case study method. According to the precepts of this tradition, we must make comparisons of efficiency and performance under a variety of alternative institutional arrangements. To that end, we will compare *one* single type of transaction, namely the provision of one public service, under alternative institutional arrangements. The type of transaction in question is chosen from the ICMA¹ list of public services provided at the local level in the United States². In the next section we will go into the case selection in more detail.

An important advantage of a comparative case study is that it offers opportunities for sorting out the effects of different explanatory factors (Denters and Mossberger, 2006). The processes and mechanisms that lead to a relationship between alignment and an efficient and better performing result can be made visible. Based on the previous discussion we can describe our case study design. The research design is shown in Table 5.1. This table shows that we select one type of transaction, ‘T’. Furthermore, we analyse the relative cost hazards and performance under alternative institutional arrangements. In our study that is ‘A’ contracting out, ‘B’ external autonomization and ‘C’ public bureau.

In this case study, municipalities are the units of analysis. The independent and

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1. The ICMA is the International City/County Management Association, which periodically conducts surveys under all cities and counties. The survey presents city administrators with a list of 64 services. It asks them to identify the services they provide and the method of delivery. The surveys are often used in TCE research.
 2. Although not all public services provided at the local level in the United States are provided at the same level in the Netherlands, the list provides an extensive list of public services from which we can select a public service well suited for our analysis.

dependent variables can be determined in relation to the two propositions formulated in the introduction of this chapter. With regard to the first proposition ‘aligning transactions and governance structures leads to a transaction cost economizing result’, the independent variable is alignment which is constructed on the basis of matching two components, attributes of transactions and attributes of governance structures, while the dependent variable is the transaction cost economizing result in terms of the types and relative level of transaction costs. Regarding the second proposition, ‘aligning transactions in an economizing way yields a better performance’, the independent variable is, again, alignment between transactions and governance structures, while the dependent variable is the performance of alternative governance structures. We shall address the operationalization of these concepts in more detail in Sections 5.3 and 5.4.

5.2 Case selection

We use a so-called most similar systems approach (Lijphart (1975) and Przeworski and Teune (1982)) in selecting cases. In most similar systems approaches cases are selected on the basis of maximum variation of the independent variables and minimum variance of control variables (Lijphart, 1975). In this way, researchers can control for the effects of these variables (Denters and Mossberger, 2006). Our empirical research focuses on Dutch local public governance structures, because the local level displays a wide variety of alternative institutional arrangements. At the same time, the institutional environment is continuous, stable and homogeneous in the Netherlands. The rules of the game (e.g. laws) constraining choices are to a large extent the same for all municipalities as they are centrally enacted in general statutes, which makes the institutional environment stable and homogeneous. With this choice for subnational cases within a single nation the ideal setting for controlled comparison is offered (Lijphart, 1975).

The selection of the cases to be studied has been determined by the two components – the transaction and the governance structure – that constitute the independent variable. The type of transaction is selected in light of the variation in governance structures governing the former. In this way it is feasible to compare alternative modes of governance governing similar transactions. Furthermore, instances of alignment and misalignment are covered in the sample, representing the full range of variation of the independent variable as King et al. (1994) advocate. The point of departure for the selection of a public service is the ICMA list of 64 public services provided at the local level in the United States (see Table 5.2).

Some of these services are not in the set of services provided by Dutch municipalities. Examples here are utility services, such as gas utility operation and management, water

Public services

ambulance service	operation of parking lots and garages
animal control	operation of bus transit systems
building security	operation of para-transit systems
buildings and grounds maintenance	operation/management of hospitals
child welfare programs	parking meter maintenance and collection
collection of delinquent processing	parks and landscaping maintenance
commercial solid waste collection	payroll
crime prevention/patrol	personnel services
data processing	police/fire communications
disposal of hazardous materials	prisons/jails
disposal of sludge	programs for the elderly
drug and alcohol treatment	public health programs
electricity utility management	public relations/information
emergency medical service	residential solid waste collection
emergency vehicle fleet maintenance	sanitary inspection
fire prevention/suppression	secretarial services
gas utility operation and management	sewage collection and treatment
heavy equipment vehicle fleet maintenance	snow plowing/sanding
insect/rodent control	solid waste disposal
inspection/code enforcement	street repair
legal services	street/parking lot cleaning
maintenance/administration of cemeteries	tax assessing
recreation facility operation/maintenance	tax bill processing
operation of airports	title records/plat map maintenance
operation of animal shelters	traffic control/parking enforcement
operation of convention centers/auditoriums	traffic signal installation/maintenance
operation of cultural and arts programs	tree trimming/planting on rights of way
operation of day-care facilities	utility building
operation of homeless shelters	utility meter reading
operation of libraries	vehicle towing and storage
operation of mental health programs	water distribution
operation of museums	water treatment

Table 5.2: **Public services compiled from the International City/County Management Association (ICMA)**

distribution and treatment and electricity utility operation and management. Other examples are the operation of airports and prisons. These services are not the responsibility of local authorities in the Netherlands. Further services that do not lend themselves for our analysis are services provided through subsidies or subventions. Examples are the implementation of cultural and arts programs, the operation of homeless shelters and the operation of museums. Another group of services is only provided by public authorities in the Netherlands, such as crime prevention or patrol and tax assessing. Some public services show little variation in organizational forms (see Van Thiel (2002)) for a meta-analysis of organizational forms concerning the provision of public services at the local government level in the Netherlands), because local authorities, lacking the means to investigate what would be the most suitable governance structure to provide a public service, have simply copied existent governance structures from other municipalities. Such similarity in organizational forms often also results from constraints imposed by the national government.

The public service that will serve as the case in our study is that of household waste collection. It is a relatively straightforward public service and, therefore, well suited for our analysis. The conditions under which it has to be provided are determined in the Environmental Management Act³. They are the same for all municipalities. Furthermore, the service of household waste collection is rather homogeneous. The only significant difference that must be taken into account is the differential use of unit-based pricing versus the use of fixed fees. The homogeneity of the public service is of special importance, because a comparative analysis along the lines of TCE requires the transaction to be the same in all municipalities. It is very helpful that the public service of household waste collection is organized by means of a variety of modes of governance (see for the distribution of modes of governance in 2004 and 2005 Table 5.3). In 2005, in 22 percent of the municipalities waste is collected by a municipal service. In particular, large cities have their own municipal services; making up 36 percent of the households. Private companies mostly collect waste in small villages. The market share of private companies is 19 percent of the households, although it involves 31 percent of the municipalities. Besides these two organization forms, inter-municipal cooperations, neighbouring municipal services⁴ as well as public companies collect household waste.

The selection of municipalities, the units of analysis, can further be of aid to meet the requirement of homogeneity of the public service of household waste collection. We select municipalities from the municipalities participating in the benchmark of SenterNovem⁵ in 2005 and 2006. In this benchmark, performance of municipalities is com-

3. In Dutch *Wet Milieubeheer*.

4. Household waste collection is contracted out to a municipal service of a neighbouring municipality.

5. SenterNovem is a bureau of the Dutch Ministry of Economic Affairs. This bureau is a center of expertise

Institutional form	Percentage municipalities in 2004	Percentage households in 2004	Percentage municipalities in 2005	Percentage households in 2005
Municipal service	21	37	22	36
Neighbouring municipal service	3	2	3	1
Inter-municipal cooperation	13	9	13	9
Public company	24	26	29	31
Private company	37	22	31	19
Other	2	4	2	4

Table 5.3: **Distribution of modes of governance of household waste collection in Dutch municipalities in 2004 and 2005** (AOO (2004) and SenterNovem Uitvoering Afvalbeheer (2005))

pared. It provides us with the data on one of the dependent variables (see Section 5.4). The municipalities participating in the benchmark are divided in three circles: circle 1 with municipalities with urbanization classes⁶ 1 and 2 ((very) strongly urbanized municipalities), circle 2 with municipalities with urbanization class 3 (moderately urbanized municipalities) and circle 3 with urbanization classes 4 and 5 (weakly and not urban municipalities). We focus on municipalities of circle 1 with urbanization class 2. In these municipalities the infrastructure of household waste collection is similar, while they represent full variation on the independent variable. They have different modes of governance governing the provision of household waste collection. Consequently, instances of both alignment and misalignment are represented. This is not the case to the same extent in the two other circles of the benchmark. Furthermore, we restrict ourselves to municipalities with fixed fees. This increases the comparability of the municipalities and of the results on efficiency and performance. We want to point out the fact that, within

on innovation, energy, climate and environment. The Waste Management Department of SenterNovem implements programmes, subsidy schemes and national and international regulations relating to waste and advises on the preparation and evaluation of waste policy.

6. The degree of urbanization is determined on the basis of address density. Five classes are distinguished, where the class boundaries are selected in such a way that all classes have roughly the same number of inhabitants. The municipalities are categorized as follows: 1. very strongly urbanized municipalities: 2,500 addresses or more per km²; 2. strongly urbanized municipalities: 1,500 to 2,500 addresses per km²; 3. moderately urbanized municipalities: 1,000 to 1,500 addresses per km²; 4. weakly urbanized municipalities: 500 to 1,000 addresses per km²; 5. not urbanized municipalities: less than 500 addresses per km².

this sample of municipalities the size of municipalities varies from a population of 35,000 to 150,000. Admittedly, this is a large difference that has to be taken into account. On the other hand, in waste collection the urbanization class and not the relative size is the decisive criterium when comparing municipalities. On the basis of the selection procedure in which the foregoing criteria were followed we have selected a sample of eight municipalities, which are located all over the Netherlands.

5.3 The independent variable

The next step to be taken to analyse the case of household waste collection is the operationalization of the core concepts of TCE. We first discuss the operationalization of the independent variable. The independent variable is a construct of two components, the transaction and the governance structure. The values of the attributes of these two components theoretically involve either an alignment or a misalignment.

5.3.1 Attributes of the public sector transaction

The first operationalization is that of the characteristics of the transaction. These characteristics are asset specificity, uncertainty – behavioural and environmental – and frequency (see Section 4.1.2). We focus on the first two attributes, asset specificity and uncertainty, because the frequency of the transaction with regard to the provision of household waste collection is always high. The provision of this public service is recurrently needed. If frequency is invariably high the two other attributes are decisive, as was discussed in Section 4.3.1.

Asset specificity Asset specificity refers to whether specific investments are required to produce the service. Specific investments are investments that can be employed for the production of one service but are very difficult to adapt for the production of other services. These specific investments include: the use of a specific location that is movable only at great cost, the use of highly specialized human skills that cannot be put to use for other purposes, the use of specialized tools or the presence of a complex system designed for a single purpose, and the requirement that the service reaches the user within a relatively limited period of time to prevent the quality of the service from unacceptably diminishing (Brown and Potoski, 2003c). Following Williamson (1979), we distinguish between three classes of asset specificity: (1) nonspecific investments, in cases in which no specialized investments are generally required to produce the service, (2) mixed investments and (3) idiosyncratic investments, in cases in which specialized investments

are generally required to produce a service which are not transferable to other uses.

Uncertainty As pointed out in Chapter 4, uncertainty refers to both environmental uncertainty and behavioural uncertainty. *Environmental uncertainty* refers to unanticipated changes in circumstances surrounding an exchange as a consequence of the political sensitivity and the rate of change in national policy and technology. Recall that political sensitivity refers to the susceptibility of residents and, consequently, of politicians to the quality of a public service (including the disruption of a service). This leads to uncertainty for both parties in relationships – service providers and service producers. Three degrees of environmental uncertainty can be distinguished: (1) low uncertainty, if little or no unanticipated changes affecting the transaction are to be expected, (2) moderate uncertainty, if a certain amount of unanticipated changes are to be expected and (3) high uncertainty, if the number of unanticipated changes is large. *Behavioural uncertainty* is related to ex post opportunistic behaviour of one of the partners in an exchange relationship. Behavioural uncertainty can be assessed on the basis of the service measurability and probity hazards of a particular transaction. In case of household waste collection, probity hazards are not to be expected. Therefore, we relate behavioural uncertainty to the attribute of service measurability only. This attribute is marked by the difficulty of measuring and monitoring the provision of a particular service and by the problem of determining how routine or unpredictable the requirements of the service are. In relation to service measurability the ability to define the public interest, for example in terms of minimally required quality, is also important. Service measurability can be classified as (1) easy to measure, when it is relatively straightforward to monitor the activities required to deliver the service and to identify performance measures; government officials can easily write a contract and clearly specify the activities and outcomes for the transacting partner to perform and achieve, while it requires relatively little effort to monitor the quality and quantity of these activities and their outcomes, (2) moderately difficult to measure and (3) difficult to measure, when it is relatively difficult to monitor the activities required to deliver the service and to identify performance measures that represent the quantity and quality of the service accurately. For difficult to measure services, government officials cannot easily write a contract and clearly specify the activities and outcomes for the transacting partners to perform and achieve.

All in all, three levels of uncertainty can be distinguished: (1) low uncertainty, when little or no anticipated changes affecting the transaction are to be expected and when it is relatively straightforward to monitor the activities required to deliver the service, to identify performance measures, to write a contract and clearly specify the activities and outcomes for the transacting partner to perform and achieve, (2) moderate uncer-

tainty, when some amount of unanticipated changes are to be expected and when it is moderately difficult to monitor the activities required to deliver the service, to identify performance measures, to write a contract and clearly specify the activities and outcomes for the transacting partner to perform and achieve, and (3) high uncertainty, when the level of unanticipated changes is high and when it is relatively difficult to monitor the activities required to deliver the service, to identify performance measures that accurately represent the quantity and quality of the service and to write a contract and clearly specify the activities and outcomes for the transacting partners to perform and achieve.

5.3.2 Identification of public sector governance structures

The second operationalization is that of the other factor constituting the independent variable, i.e. the governance structures. In Chapter 4 we distinguished between contracting out, external autonomization – inter-municipal cooperation and public company – and municipal service. The governance structures of the eight municipalities selected can be identified on the basis of this categorization.

Three municipalities provide household waste collection through a municipal service. A municipal service is operationally defined as any distinct part of the municipal organization. A unit of this kind can be more or less decentralized. From a legal point of view, the degree of (de)centralization does not affect the responsibilities of the municipal executive, neither in the field of private law nor in that of public law. A municipal service can, therefore, be characterized as a hierarchical mode of governance in which service provider and service producer are part of the same municipal organization.

Three other municipalities charge a public company with the provision of household waste collection. Based on private law, these municipalities, jointly with other municipalities, have established a public company. This is a business organization that is owned and governed (more or less at a distance) by one or more local governments and that is legally as well as economically independent. This mode of governance represents a mode in which government buys the production of a public service from a separate organization. Service provider and producer are different organizations. The public company exhibits, however, hierarchical elements, in that municipalities are shareholders of the public company.

Two municipalities contract out the provision of household waste collection to private organizations. Contracting out refers to commissioning a private organization to perform a specific public assignment. The private organization is often selected by putting out a tender. The government bills and collects payments from its citizens, and in turn reimburses the private company. In this mode of governance, government buys the production of public services from a private company, which involves that service provider

		Asset specificity		
		Nonspecific	Mixed specific	Idiosyncratic
Uncertainty	Low uncertainty	contracting out	public company	municipal service
	Moderate uncertainty	contracting out	contracting out	municipal service
	High uncertainty	municipal service	municipal service	municipal service

Table 5.4: Matching local governance structures with public transactions

and producer are different organizations.

5.3.3 Public sector alignment

Elaborating on the previous sections, we are able to identify instances of alignment, the independent variable. The values of the attributes of the two components, the transaction and the governance structure, theoretically imply either an alignment or a misalignment. On the basis of our analysis in Section 4.3.1, we are able to present Table 5.4 which shows the match of local public governance structures with local public transactions that results from economizing efforts. Transactions conducted under low uncertainty demand additional safeguards if the level of asset specificity increases. Additional safeguards increase by moving from contracting out, to public company, and to municipal service. When transactions are conducted under a moderate level of uncertainty, contracting out is most efficient in case of nonspecific investments. When transactions characterized by a moderate level of uncertainty require mixed specific investments, contracting out is still the preferred form, since with bilateral contracting, negotiations on adaptations are not expected to be as costly as with a public company (i.e. multilateral contracting). Transactions either conducted under a high level of uncertainty or characterized by a high level of asset specificity require the level of adaptation and safeguards of a municipal service.

5.4 Dependent variables

Next to the independent variable, the dependent variables have to be operationalized. These are efficiency and performance of local level governance structures. Firstly, it has to be noted that the choice in favour of restricting attention to a single particular pub-

lic service, namely household waste collection, is made to control many of the factors that might be thought of as influencing organizational form, efficiency and performance. Since the public service is otherwise homogeneous, this justifies the assumption that variations in efficiency and performance with regard to that public service can be associated with differences in organizational form.

Existing studies of performance and efficiency implications of governance choices, though limited in number and scope, suggest that organizational form has a significant impact on efficiency (Crocker and Masten, 1996) and performance (Yvrande-Billon and Saussier, 2005). All of these studies struggle with the question of how to measure efficiency – in terms of transaction costs – and performance. Since second generation empirical studies are still in an early stage of development and researchers are still looking for methodologies, we can only partly rely on these methods. We, therefore, choose to operationalize these variables partly in an alternative way.

5.4.1 Comparing efficiency

An important question is how to measure efficiency in terms of transaction costs. As mentioned previously, transaction costs are notoriously difficult to measure and cannot be calculated exactly. As Kähkönen (2005) observes, evaluation of a non-measurable phenomenon requires a different way of comparing advantages and disadvantages. It seems that detecting such a different way may be more valuable than persisting in carrying out econometric analyses in evaluating efficiency as is often done in TCE.

One attempt at measuring costs of organizing transactions is the study of Masten et al. (1991). In their second generation TCE study of make-or-buy decisions of a large naval shipbuilder concerning the procurement of components and services, they pay explicit attention to the role of organization costs. Their measurements of organization costs are based on the number of hours devoted by management to planning, directing, and supervising a particular component or process multiplied with the average hourly management wage rate (Masten et al., 1991). One of their main results is that misaligned governance leads to a higher level of organization costs whatever the misalignment.

Brown and Potoski (2004a) also make an attempt at measuring costs under alternative institutional arrangements. In their study of governmental make-or-buy decisions, they assess relative management costs attached to providing the public service of waste collection in municipal services and contracting it out. They identify two types of costs, namely, costs of monitoring service provision and performance, and managing external relations. Their measurements are based on the number of government employees per 10,000 members of the population and the number of hours dedicated to management tasks such as managing employees and service provision, administrative duties, manag-

ing external relations and responding to citizen complaints. Their results indicate that governments providing waste collection in municipal services have higher management costs than contracting it out.

Other research, outside TCE, also includes attempts at measuring costs. An example is the study of Baarsma et al. (2004) which concerns the costs and benefits of different forms of regulation. The study emphasizes the difficulties in measuring these kind of costs and benefits as a consequence of the fact that there are no quantitative data available. This is especially the case if only one form of regulation exists. The question then is, how to measure costs of nonexistent forms of regulation? This problem is solved by hypothesizing on implications of alternative forms of regulation. However, it is not really costs that they measure. The only thing they are able to do, is to formulate cost expectations and classify costs and benefit items.

The studies discussed above provide leads for measuring transaction costs. However, they all have difficulties in collecting relevant, necessary data and only measure specific types of transaction costs. We, therefore, propose an alternative, qualitative way to compare the efficiency of different governance structures.

5.4.1.1 Working rules

To tackle the problem of comparing efficiency we shall make use of a qualitative method of assessing the types and relative levels of transaction costs under different governance structures. With this analysis we build on the dialogue between new and old institutional economics. In concrete, we use the work of Commons (1924) which formed an important inspiration for Williamson's work. More specifically, Williamson's concept of the transaction has been derived from Commons (Williamson, 1998b) (as discussed in Chapter 2) and the study of governance was prefigured by him (Williamson, 2005). Commons' work still can be of relevance to the work of Williamson (see for example Kaufman (2003) and Groenewegen (2006)). Most important, in the context of this study, are Commons' concepts of *going concerns* and *working rules*. Going concerns are named institutions by Commons (1934). They range from family, to corporation up to government itself. They are the processes and mechanisms that organize activities of individuals. They are similar to Williamson's governance structures (Kaufman, 2003). Williamson follows Commons in that the prospect of conflict inexorably leads to the governance question. As posed by Commons: Can parties craft a governance structure that allows them to manage or even neutralize conflict and, in turn, to realize mutual gain that conflict had jeopardized? Williamson (1985, p. 3) paraphrases Commons (1934) on this count: 'Commons [...] recognized that economic organization is not merely a response to technological features – economies of scale; economies of scope; other physical and technical aspects

– but often has the purpose of harmonizing relations between parties who are otherwise in actual or potential conflict’.

Commons states that the universal and ultimate principle of going concerns is the principle of *working rules* (Commons, 1924, p. 384):

The statement and enforcement of a working rule is accomplished through the process of restricting their [individuals’, MvG] liberties, and it is this process that creates automatically the correlative rights and exposures of other individuals. When the going concern imposes these ethical duties, it does so through those working rules which guide its officials, foremen, superintendents, judges, legislature, and which in law are known as powers, liabilities, immunities and disabilities⁷.

In this sense, the working rules underlie Williamson’s governance structures (Kaufman, 2003). The working rules of a governance structure constitute, so to say, the legislation that its participants must comply with. Working rules determine the rights, duties and liberties of participants and the extent to which the rights of third parties need to be respected. Working rules simply tell what individuals must, must not, can and cannot do (Commons, 1924). They form the constraints that determine the interaction between actors in a governance structure. The way in which these working rules operate, is by imposing certain limits on and giving opportunities to the individuals who are parties to transactions. These limits and opportunities of the individual wills can be condensed into the four volitional verbs *may*, *must*, *can* and *cannot*. Working rules can take the form of laws, court decisions, business and trade union rules, contractual agreements, social norms, ethical principals and customs. They can be both formal and informal (Kaufman, 2003)

5.4.1.2 Direct costs and costs of frictions

The concept of working rules can be used to assess the types and relative levels of transaction costs. To that end it is useful to make a distinction between two types of costs. Rindfleisch and Heide (1997) discuss what the source and nature of the most common forms of transaction costs are. They show that transaction costs can arise in the form of direct and in the form of opportunity costs. They relate these costs directly to asset specificity, environmental uncertainty and behavioural uncertainty. Direct costs are the costs of mitigating the contractual hazards of asset specificity, environmental uncertainty and

7. Using this characterization of working rules, Commons falls back on Hohfeld’s (1919) set of legal relationships.

behavioural uncertainty. Opportunity costs are the costs of failures in mitigating these contractual hazards completely.

With this distinction between these two types of costs, we are able to compare the efficiency of governance structures. ‘Clearly, transaction costs cannot be assessed only by examining the inputs used to support the decision process, as this would yield the trivial (and incorrect) conclusion that less governance is always better’ (Dow, 1987, p. 18). Therefore, it is of importance to assess both types of costs. The question is, however, how to assess the relative level of these costs. To that end, we turn to the working rules of Commons. As we have seen, governance structures are created to achieve certain goals or in Commons’ terms, ‘public purposes’. In the public sector, a main goal is the provision of public services in an efficient way. The working rules of modes of governance provide a structure for human interaction and determine the way in which transactions take place. On the basis of these working rules we gain insight into the level of transaction costs within a certain governance structure. The working rules specifically give an insight into the ex post costs of contracting, the focus of TCE. They show how the governance structure is administered, how monitoring takes place, how adaptation is acquired and how disputes are settled. This relates to the *direct costs* as part of the totality of transaction costs.

The other part of the totality of transaction costs, *costs of frictions*⁸, is of special importance in this study, because we are studying cases of alignment and misalignment. In the cases of misalignment we expect costs of frictions. Recall Williamson’s definition of transaction costs in which he focuses on these costs of frictions (1981, p. 552):

In mechanical systems we look for frictions: do the gears mesh, are the parts lubricated, is there needless slippage or other loss of energy? The economic counterpart of friction is transaction cost: do the parties to the exchange operate harmoniously, or are there frequent misunderstandings and conflicts that lead to delays, breakdowns, and other malfunctions?

Costs of frictions are ex post costs of maladaptation and adjustment as a result of gaps, errors, omissions, and unanticipated disturbances (see also Section 2.3.3). The working rules of Commons can also shed light on this part of transaction costs. Although Commons nowhere discusses the costs of making transactions or explores how these costs might influence the organization of economic activity (Kaufman, 2003), he does address the efficiency of governance structures. He states (Commons, 1924, p. 377):

8. Rindfleisch and Heide (1997) use the term ‘opportunity costs’ here. We use ‘costs of frictions’ to avoid confusion about the term. Usually, the term ‘opportunity cost’ of a resource is used to refer to the value of the next-highest-valued alternative use of that resource or, in other words, the cost of something in terms of an opportunity forgone (and the benefits which could be received from that opportunity).

Economic theory starts with the purpose for which the artificial mechanism in question was designed, fashioned and remodeled, and inquires first, whether that purpose is useful or useless, legitimate or illegitimate, ethical or unethical, right or wrong. Then it inquires whether the artificial mechanism in question accomplishes that purpose in an efficient or economical way, and, if not, what is the limiting factor, out of the thousands of cooperating factors, that obstructs the operation, and to what extent that limiting factor can be, and requires to be, controlled in order to facilitate the mechanism and accomplish its purpose. Then it adopts or changes the working rules, that regulate the actions and transactions of participants.

Commons illustrates this with an example of an automobile (Commons, 1924, p. 377):

What is the theory of my Ford automobile? That mechanism was designed to move across the country under my guidance carrying a load, and thereby accomplish a purpose deemed useful by me. Suddenly it stops without being directed by me to do so. It gets out of control. I then get out and seek the limiting factor, perhaps a little wire crossing another wire. I change somewhat that limiting factor and resume control of the mechanism. From the standpoint of economic theory that little wire was the limiting factor at the moment and under the circumstances. [...] What the economist does, if possible, is to uncover that limiting factor and to point out, if possible, the extent, degree and point of time at which it should be modified or counteracted, in order to control all of the factors for the further purpose deemed important.

These 'limiting factors' are similar to Williamson's conception of transaction costs as the economic counterpart of frictions (Williamson (1985) and Kaufman (2003)). This presents us with the connection between working rules and transaction costs. As Commons makes clear: 'what the economist does, if possible is to uncover the frictions and to point out if possible the extent, degree and point of time at which it should be modified or counteracted, for the further purpose deemed important' (Commons, 1924, p. 378). Commons does not provide a 'follow-on empirical research agenda' (Williamson, 2005, p. 38), or more specifically, a method of analysis to discover these frictions. He maintains a very abstract level of theorizing. By contrast, Williamson does provide a method: the method of comparative institutional analysis. Combining the two theoretical viewpoints, it can be said that frictions arise when the working rules of the governance structure fail to mitigate the hazards of asset specificity and environmental and behavioural uncertainty that are characteristic of a particular public sector transaction concerning the provision of a public service to the public.

	Asset specificity	Environmental uncertainty	Behavioural uncertainty
Sources of transaction costs	safeguarding	safeguarding and adaptation	performance definition and evaluation
Type of transaction costs			
Direct costs	costs of crafting safeguards	communication, negotiation and coordination costs, and costs of crafting safeguards	specification and measurement costs
Costs of frictions	failure to invest in productive assets	maladaptation; failure to adapt	productivity losses through effort adjustments and bad performance

Table 5.5: **Sources and types of transaction costs** (based on Rindfleisch and Heide (1997))

In Table 5.5 direct costs and costs of frictions are related to asset specificity and the two forms of uncertainty. This is of importance in identifying and comparing the efficiency of public sector governance structures. Asset specificity demands safeguarding. This source of transaction costs leads to direct costs of crafting safeguards and costs of frictions as a result of a failure to invest in productive assets and a high mutual dependency of contracting partners. Environmental uncertainty as a consequence of political sensitivity to the quality of a service demands adaptation and safeguarding. This source of transaction costs leads to direct costs of communication, negotiation and coordination, as well as direct costs of crafting safeguards. Costs of frictions result from maladaptation, a failure to adapt or too many consultations. Behavioural uncertainty as a consequence of service measurability demands performance specification and evaluation. This source of transaction costs leads to direct costs of specification and measurement. Costs of frictions are the consequence of productivity losses through effort adjustments or bad performance.

These costs will be tracked based on an analysis of the working rules of the governance structures. In our analysis of working rules we focus, first of all, on 'black letter rules' that are part of actual legal behaviour, the social practices. Besides these black letter rules we analyse rules that are not laid down in, for example, agreements, but that

are of vital importance in the relationships between contracting partners. One can think of social norms and customs. We will track both types of working rules in two separate ways. Here we distinguish between 'law in books' and 'law in action' (Pound, 1910). First, we analyse 'law in books', that is, rules and agreements that are laid down in, for example, contracts, Shareholders Agreements and Ordinances, provided that they are also 'law in action'. Secondly, we analyse 'law in action' that cannot be found in 'law in books'. These rules are tracked based on interviews.

A next step is to gain insight into the frictions that arise in the different governance structures when working rules fail to mitigate the hazards of asset specificity and environmental and behavioural uncertainty. These are also tracked on the basis of the interviews. This will lead to a picture of types and relative levels of direct costs and costs of frictions. In this way, we are able to assess the relative level of efficiency of the different governance structures. It has to be noted that it is not our aim to quantify these direct costs and costs of frictions. We will only compare the relative level of these costs in terms of none, low, average or high transaction costs (as is common usage in qualitative research (King et al., 1994)).

5.4.2 Comparing performance

Let us now turn to the operationalization of the second dependent variable, that is, the performance of local level governance structures. Implementable performance measures are not easy to devise (Masten (1993) and Joskow (1991)). Yvrande-Billon and Saussier (2005) give an overview of second generation TCE studies that make an attempt at analysing performance of governance structures. They show that a variation of methodologies is used to assess the importance of organizational choices for firm performance, where they distinguish between three methodologies. Firstly, there are studies that analyse the impact of misalignment on profits and costs, and assess the benefits of alignment. An example is the study of Silverman et al. (1997) which measures the profitability of firms in the U.S. trucking industry. Secondly, performance is measured in terms of survival. The basic proposition is that misalignment might increase the probability that firms will not survive. This type of analysis is, for example, conducted by Nickerson and Silverman (2003). Thirdly, some research analyses whether the quality of goods or services varies with the degree of alignment. Examples of the last type of studies are Poppo and Zenger (1998) and Ménard and Saussier (2002). Poppo and Zenger (1998) analyse the 'make or buy' decision in the case of information services. As a performance measure they use perceptual criteria: high levels of satisfaction represent realized performance expectations. They use the degrees of satisfaction with respect to three common performance goals: satisfaction with the overall costs, the quality of the service and, the

responsiveness to problems or inquiries (Poppo and Zenger, 1998). Their main results are that misaligned governance leads to lower performance when externalization is chosen in violation of transaction cost economics propositions. Furthermore, they show that asset specificity, while not affecting firms' performance, does affect market performance. Ménard and Saussier (2002) analyse the impact of alternative governance structures on the quality of the water supply system.

Of the three methodologies described above, we opt for a combination of two. We analyse performance on the basis of overall costs and quality of the service delivered. Survival may be a suitable measure of performance in the private sector, in the public sector it is not. We already addressed the fact that in the public sector, governance structures, in spite of bad performance in terms of costs, may quite often be preserved for other reasons (see Chapter 4). It is therefore, not an adequate measure of performance in the public sector. The other two methodologies, measurements of costs and quality, are equally well applicable in the private and the public sectors and will be applied in this study.

For our performance measurement we turn to secondary data. We use the performance indicators of the benchmark⁹ that is conducted by SenterNovem in cooperation with thirty municipalities. This benchmark is performed every year (since 2002). The basis of this benchmark is the Municipal Waste Monitor (AOO, 2004). In this monitor the waste performance is evaluated from three perspectives or performance fields: environmental performance, costs, and quality of service delivery. In line with the two methodologies we follow in this thesis, we define the quality of a service in terms of quality of service delivery. Costs are the waste management costs that are made by municipalities to provide the service of household waste collection. In the following, we address both performance measurements in more detail.

Costs The central question with regard to this measure of performance is: Which costs have been made to provide and maintain service delivery, and to achieve the level of separation of waste? These costs comprise both direct¹⁰ costs and indirect costs.

These two categories of costs are in euro's per household. Subindicators of total direct costs are costs of the collection and disposal of residual and organic waste, paper, glass, textiles, hazardous materials and bulky waste. Total indirect costs consist of policy costs, communication costs, enforcement costs, perception costs¹¹, overhead costs and internal transfer pricing costs. The latter are not part of our analysis of performance, be-

9. A benchmark evaluates various aspects of processes in organizations in relation to the best practice, usually within their own sector.

10. These direct costs should not be confused with the direct costs discussed in Section 5.4.1.2.

11. Perception costs are the costs involved in levying taxes.

cause the data provided by municipalities on this type of costs are incomplete or partially unreliable.

Quality of service delivery Here the questions are: Which service delivery package has been provided to citizens and what perceptions do citizens have of this package? And how customer centred are local authorities?

The level of service delivery is based on a questionnaire with subindicators which is filled in by the municipalities themselves. On the basis of this information, a service delivery score is determined. In 2005 and 2006 this score was determined in a different way. In 2006, the maximum score on service delivery is 142 points (SenterNovem Uitvoering Afvalbeheer/Cyclus, 2006). The service delivery score is made up of two parts. The first part is the service delivery package (maximum of 103 points) concerning the possibilities offered to citizens of disposing of their waste separately. The size of the package is determined on the basis of the amount and intensity of the services a municipality offers to its citizens with regard to waste management. The maximum amount of points can only be reached if a municipality provides for pick up services as well as disposal facilities with regard to all types of waste. The second part is customer-orientedness (maximum of 39 points) concerning the efforts of a municipality to make an inventory of complaints and opinions of citizens and the activities a municipality undertakes following the results of this inventory. In 2005, the service delivery score was determined in a different way (SenterNovem Uitvoering Afvalbeheer/Cyclus, 2005). The questions, definitions and scoring are based on the municipal waste monitor (AOO, 2004). The maximum score on service delivery, in this case, is 98 points. It is made up of the following parts: service delivery package (maximum of 71 points), customer-orientedness (maximum of 15 points), customer satisfaction (maximum of 10 points), citizens' perception of municipal services (determined on the basis of interviews by telephone in which citizens were asked to grade the services the municipality provides with regard to waste management) and two bonus points.

5.5 Data collection

We collected data from the municipalities that participated in the benchmark of SenterNovem in 2005 and 2006. In 2005 thirty-three municipalities participated in the benchmark. In 2006 thirty-seven municipalities participated. In both benchmarks municipalities were divided in three circles: circle 1 with municipalities with urbanization class 1 and 2 ((very) strongly urbanized), circle 2 with municipalities with urbanization class 3 (moderately urbanized) and circle 3 with urbanization class 4 and 5 (weakly or

not urbanized). As discussed in Section 5.2, we choose to analyse large municipalities. Therefore, we focus on the municipalities in circle 1. In 2005, this circle comprised of eleven municipalities, in 2006 thirteen. Combining these two benchmarks, we selected municipalities with urbanization class 2, that were using fixed fees and were characterized by one of the three distinguished modes of governance in Chapter 4. In this way, we have selected a sample of eight municipalities of which six participated in both benchmarks and two in only one of the benchmarks.

Municipalities participate in the benchmark voluntarily. The aim is to learn from other municipalities. Voluntary participation has the advantage that municipalities are willing to provide data and have an interest in providing the right data. The fact that they participate voluntarily could also have as disadvantage that only particular municipalities would participate in the benchmark. We have, however, not found evidence for this.

The data on the specific performances of municipalities are only available to the municipalities that participated in the benchmark. The aim of the benchmark is, as mentioned, for participating municipalities to learn from each other and not to use it for other purposes. Nonetheless, we received permission to use these data, on condition that they be made anonymous. Some of the data includes sensitive information, for example, data containing details of contracts or costs. Although anonymity diminishes the controllability of research results, the benchmark has the considerable advantage that it makes it possible to compare the performance of governance structures systematically. This would otherwise be very labor intensive and difficult to achieve. Interpreting the result does not require that they are related to particular municipalities.

The data of the benchmark are provided by the participating municipalities themselves. These data concern the years 2004 and 2005. The municipalities are responsible for the quality of the data. All data provided are verified and checked on completeness by SenterNovem and Cyclus¹². Furthermore, municipalities of the different circles have meetings in which they discuss and compare interim results. The collected data on the quantities of waste are compared to data of Statistics Netherlands¹³. Striking abnormalities (for example, increases or decreases of more than 10%) are discussed with the particular municipalities. In particular, in the data on costs there are deficiencies. In some cases the required data are not available or unknown. In other cases, the data on costs cannot be further subdivided into a particular kind of waste or cost item. A comparison of total direct costs of waste management, therefore, gives the most reliable picture. The results of the benchmarks of 2005 and 2006 are presented in circle reports and in waste management profiles per municipality (in the remainder of this study the

12. Cyclus is a private bureau that assists SenterNovem in conducting the benchmark.

13. Statistics Netherlands is responsible for collecting, processing and publishing statistics to be used in practice, by policymakers and for scientific research.

reference SenterNovem Uitvoering Afvalbeheer/Cyclus (2005) denotes the benchmark results of 2005 and SenterNovem Uitvoering Afvalbeheer/Cyclus (2006) denotes those of 2006).

With regard to the comparison of the relative levels of direct costs and costs of frictions the situation is different. Here, we do not use secondary data, but we collect our own data. Since we analyse the same municipalities as in the above described part of the empirical research, it is necessary to keep referring to them anonymously. Data collection takes place on the basis of formal documents, such as contracts, shareholders agreements, municipal regulations and waste plans. Furthermore, we use of semi-structured interviews with key persons. Key persons are municipal officials who are involved in waste collection in a particular municipality. Other key persons are managers in the private and public companies and the municipal organization providing the service. We only interviewed a few key persons per municipality, since only a small number of officials is able to provide a complete overview of the provision of waste collection. Furthermore, we had some additional interviews with experts in the field of waste collection.

To gain access to key persons we made contact with the persons in the particular municipality responsible for the benchmark. All of them agreed to an interview with us. After having interviewed these persons, we asked them for an introduction to other persons in the municipality involved in household waste collection. In some instances no one else was involved, in other instances we were introduced to other persons in the municipality. Furthermore, in cases characterized by some specific governance structures – public companies and private companies – we asked for an introduction to the persons in these companies who were involved in the household waste collection in the municipality concerned. All of these persons agreed to participate.

In all, 22 semi-structured interviews were held with persons who were involved in household waste collection within the sample of municipalities, both within the municipal organizations and the companies delivering the service. Respondents were local officials, (account) managers of public or private companies and outside experts. They are listed anonymously in Appendix A. In the following chapters quotes will be followed by numbers referring to respondents in this appendix. Where possible, we cross-checked statements of respondents with documents or statements of other respondents. All the interviews were in-company interviews, held at the location where our respondents had their offices. On average, the interviews took 90 minutes to round off, but the actual duration of the interviews varied between 45 and 150 minutes. All our conversations were taped and transcribed, resulting in 320 pages of double spaced interview reports. The questionnaire can be found in Appendix B. It consists of questions to track the working rules underlying governance structures and questions to rank the attributes of household

waste collection.

5.6 Methodological caveats

To conclude this chapter, we address four important methodological caveats concerning this empirical research. We discuss the comparison of the relative level of costs, the measurement of performance, the internal validity and the mode of generalization.

Firstly, the comparison of the relative levels of costs takes place on the basis of formal rules. It is, however, clear that not only formal rules, but also informal practices matter. The precise distribution of formal obligations does not completely reflect the reality of exchanges in which parties must maintain relationships (Walsh, 1995). We try to compensate for the resulting bias by interviewing key persons that are involved in the provision of waste collection on the side of the local authorities, as well as on that of the companies or bureaus that actually provide the service. However, doubts may arise as to whether this is sufficient.

Secondly, the measurement of performance in terms of costs and quality takes place on the basis of a benchmark that is performed by SenterNovem in cooperation with municipalities in 2005 and 2006. As already mentioned, the municipalities themselves provide the data. This raises the question whether the data are reliable. The following considerations justify the assumption that this is the case. Most municipalities have been conducting the benchmark for some years now. They have experience with providing the requested data. Furthermore, municipalities participate voluntarily in the benchmark. The aim of the benchmark is to learn from other participating municipalities. To achieve that, comparability is necessary and providing the right data is of importance. Municipalities themselves, therefore, have an interest in providing the right data. Besides that, the data are verified and checked by SenterNovem and Cyclus (as discussed in Section 5.5). In addition, in the interviews we paid attention to the results of the benchmark. In this way, key persons within municipalities could add comments if they wanted to. Based on these aspects, we can assume that the reliability of the data is guaranteed as far as possible.

Thirdly, with regard to the internal validity of our study, it is true as King et al. (1994, p. 79) observe, that ‘we can never hope to know a causal effect for certain’. We address the fundamental problem of causal inference by selecting units of analysis that are comparable in the sense that all municipalities in the sample are characterized with an urbanization class of 2 and use a fixed fee. Density effects are, therefore, neutralized. In this way, a high level of comparability is reached. Also, the selection of the public service of household waste collection, which is rather homogeneously provided by munic-

ipalities, increases comparability. Therefore, we consider ourselves justified to conclude that the differences we observe in the values of the dependent variable are the result of the differences in the values of the explanatory variables. There is, however, at least one additional complicating variable. The municipalities do not all have the same size. Although degree of urbanization is considered to be more important than size in household waste collection, this has to be taken into account in the comparison of the dependent variable. Another way of addressing the fundamental problem of causal inference is the assumption of conditional independence, meaning that values are assigned to the explanatory variable independently of the values taken by the dependent variables (King et al., 1994). In our study the values of the explanatory variable are not caused by the dependent variable.

Fourthly, 'while the real need is to fashion generalizations of universal scope and validity' (Lijphart, 1975, p. 172), we clearly are only able to achieve partial generalizations. This is a consequence of the fact that we use a comparative case study. Partial generalizations can, however, be useful as a first step, and can be followed by replications in different settings. These different settings could be other groups of municipalities and different public services.

Chapter 6

Dutch Local Governance Structures in Waste Collection

CENTRAL TO THIS CHAPTER is a description of eight public governance structures. These governance structures are located at the Dutch local government level and have been created to provide the public service of household waste collection. The aim of this chapter is to describe their *working rules*. These working rules lay down the mechanisms, procedures and social practices of the governance structures. We analyse ‘law in books’ on the basis of rules and agreements that are laid down in, for example, contracts, shareholders agreements and ordinances and we explore ‘law in action’ on the basis of interviews. The latter are also used to gain insight into the frictions that arise in the different governance structures. This will form the basis of our analysis of transaction costs of the different governance structures in the following chapter. To that end, we firstly pay attention to the Dutch local government level in general and the local government reforms of the last decades. Hereafter, we will address the case of household waste collection and the way in which eight Dutch municipalities provide this public service. These municipalities are located all around the Netherlands.

6.1 Dutch local government

Local government in the Netherlands conforms to the basic logic of the decentralized unitary state. The Dutch governmental system includes a three-tier subsystem consisting of the central government, provincial authorities and local authorities. All administrative layers consist of democratically legitimized autonomous authorities. Local government bodies are accorded an open, general competence. The freedom of local government is, however, constrained by the central and provincial authorities by virtue of statutory

rules. For their part, higher authorities are restricted in their decisions by the principles of subsidiarity, power sharing and decentralization. In addition, they exhibit a factual dependence on local knowledge and the implementation capacity available in local government (Hendriks and Tops, 2003).

The internal organization of municipalities is based on the Municipalities Act. Under this act, the municipal council is the highest authority in a municipality, with the board of Burgomaster and Aldermen as the municipal executive. The municipal executive implements national regulations on matters such as social assistance, unemployment benefits and environmental management. It also bears primary responsibility for the financial affairs of the municipality and for its personnel policies. The executive is accountable to the municipal council. The composition of the municipal council is determined on the basis of local elections every four years. The municipal council's principal responsibility is representation of the people and control. Its main task is to determine the municipality's broad policies and to supervise their implementation. Each member of the municipal council has a vote and decisions are taken by majority vote.

Municipalities receive more than 90 per cent of their income from the national government. A part of the income comes from the Municipalities Fund, a fund in which the national government allocates part of the national tax revenues that are distributed among municipalities every year on the basis of certain statutory benchmarks. Local authorities are free to spend these revenues according to their own view. Besides revenues from the Municipalities Fund, municipalities receive grants from the national government for specific purposes such as public transport or youth care. The amounts depend on the composition of the population and local circumstances. Finally, the municipalities have the power to levy taxes. Taxes on residential and business premises constitute the main source of independent income. The level of tax rates is determined by the municipal council. This is also the case with regard to the determination of rates municipalities charge for parking, legal documents and waste collection.

One of the main responsibilities of municipalities is maintaining the housing stock. Another important responsibility is for local roads and road safety. Municipalities are, for example, responsible for the construction of roads, parking places, car parks and bicycle tracks. Furthermore, they are involved with issues related to the environment, such as waste collection. Besides these fields, municipalities have responsibilities with regard to education. For example, the municipal council acts as the school board for local publicly-maintained schools. They are also responsible for sufficient and suitable school accommodations for privately-maintained schools. Increasingly, other fields are becoming the responsibility of local governments such as after-school care and the management of arts centres and sports facilities.

6.1.1 Local government reforms

In the last decades Dutch local government has undergone many reforms. Firstly, major reforms concerning local public management have taken place. From the early post-war period until the present, different organization models have been subsequently implemented (Hendriks and Tops, 2003). In the early post-war period, virtually all municipalities had a uniform traditional bureaucratic structure. Under the influence of, among other things, new public management nowadays we meet a diversity of municipal internal organization structures.

Secondly, in the 1980's and 1990's, other kinds of administrative reforms have been implemented such as privatization, and competitive tendering, while bureaus have been given more freedom to manage. An important argument to implement these changes has been to separate policy and administration so that politicians, policy makers and policy implementers can concentrate on their core business (Van Thiel, 2004). This was related to the discussion on what could be seen as the essential tasks of municipalities. The total number of tasks was growing fast and to prevent overload, it was held that tasks that were not genuinely public in character, should not be fulfilled by local governments. Other motives were to improve efficiency of policy implementation and to reduce costs as an answer to the need to achieve cutbacks and enhance quality of customer service (Van Thiel, 2004). The expectation was that the market could perform some of the tasks more efficiently and effectively (Ter Bogt, 1998). Against this background, a variety of governance structures came into being. At present, at the local government level a spectrum of such structures can be observed. In Chapter 4, we have already paid attention to this spectrum ranging from public bureau to external autonomization – inter-municipal cooperation and public company – to contracting out. In the fields of education and social welfare services municipalities are reluctant to decentralize, autonomize or privatize (Van Thiel, 2004). The preferred form is often the public bureau. Local governments show a tendency to use the second and third form particularly in the fields of culture, health, utilities, sports, recreation and waste collection. With regard to household waste collection, municipalities have chosen freely among a variety of different modes of governance.

6.1.2 The case of household waste collection

Household waste is produced by domestic activity. In the Netherlands, household waste is collected by or on the authority of the municipality in which the households are located. Household waste has potential negative effects. Preventing such effects requires regulation. An uncontrolled spread of household waste is harmful to the environment

and to human health. Central government, therefore, regards it as its task to devise and carry out an environmentally sound policy to control household waste. Household waste collection policy focuses on prevention, separation of waste and specific recycling circuits. Prevention is one of the priorities of waste policy.

Under the Environmental Management Act, municipalities bear the responsibility for the periodical collection of household waste from any property on the municipalities' territories. Municipalities are, however, free to decide whether to provide the service in-house or to contract it out, with the consequence that municipalities as well as private firms are active on the household waste market. In local by-laws, local authorities fulfil their obligations by prescribing the kinds of waste households must separate. Since 1994, municipalities have the obligation to supply an infrastructure for a separate collection of organic waste. In addition, they have to provide facilities for the separate collection of glass, paper, textiles, electronic products and hazardous materials. Local authorities also have, based on the Environmental Management Act, the legal obligation separately to collect waste that is too large or heavy to be collected as part of the regular household waste collection. They are obliged to provide for at least one supervised facility to which households can bring bulky waste. Examples are civic amenity sites or household waste recycling centres. Sites of this kind facilitate the separate disposal of waste such as tyres, refrigerators, electronic products, waste caused by constructing and demolition activities and garden waste. The purpose is to provide service facilities to optimize the collection of certain kinds of waste and increase the recovery of secondary materials. The sites have regular opening hours where inhabitants can enter to dispose of waste separately in specific containers.

Local authorities are free to decide how citizens have to pay for waste collection. Some municipalities choose unit-based pricing while others use a fixed fee. Mostly relatively small municipalities use unit-based pricing. This can take different forms. Charging can take place based on the volume of the container, the weight of waste, or the frequency with which the container is put on the curbside to be emptied, or by using expensive bags (in that case only special waste bags are accepted which are sold by the municipality). The National Waste Management Plan¹ serves as a review framework for the implementation of waste policy by central government, provincial authorities and local authorities. The authorities have to take the waste management plan into account when exercising their powers. A leading principle in the Waste Management Plan is the triangle of costs, service delivery and environment².

After years of institutional change, the collection of household waste in the Nether-

1. In Dutch *Landelijk Afvalbeheerplan*.

2. This 'waste triangle' is used in the Municipal Waste Monitor to evaluate and assess the performance of municipalities in the field of waste management (AOO, 2004).

lands is still mainly performed in-house by the public sector. However, private parties also increasingly perform this task under conditions set by the government. A large variety of forms can be observed (see for the distribution of institutional forms in 2004 and 2005 Table 5.3). In the mid-nineties many municipal services were privatized by converting them into public companies. By contrast, in recent years this only happened in a few isolated cases. Differences between the years 2004 and 2005 are mainly explained by a reduction of the number of Dutch municipalities as a consequence of municipal amalgamations³. Recently, SenterNovem (2006b) qualified the waste market as rather stable. According to SenterNovem, in the future only incidental changes are to be expected. With this general picture of the Dutch local government level and the public service of household waste collection in mind, we can turn to a detailed description of the mechanisms, procedures and social practices in the governance structures with regard to the provision of household waste collection of eight Dutch municipalities.

6.2 Waste collection in eight Dutch municipalities

The eight cases in this section concern Dutch municipalities within urbanization class 2. These are Limesdale, Myrtlefield, Olivetown, Denimborough, Indigoford, Carminecastle, Crimsonbridge and Scarletcity. They are divided in three categories, according to the governance structure they adopted for the provision of household waste collection. Firstly, we discuss the municipalities with a municipal service which are Limesdale, Myrtlefield and Olivetown. Secondly, we describe the cases in which waste collection is contracted out to a private firm, to wit Denimborough and Indigoford. Thirdly, we describe how three municipalities organize waste collection in a public company, namely Carminecastle, Crimsonbridge and Scarletcity. In describing these governance structures we make use of the attributes of governance structures distinguished in Chapter 4:

- incentive intensity,
- administrative support, and
- contract law: duration, degree of completeness, dispute settlement and enforcement procedures.

We discuss these attributes as far as they are relevant to a particular governance structure. In addition, we pay attention to ownership of assets. Finally, we present what the public service of waste collection consists of in the different municipalities by describing

3. Per January 2004 the Netherlands had 483 municipalities, per January 2005, this diminished to 467.

the *waste collection model* of each particular municipality. These models are informative on the homogeneity of the transaction.

6.2.1 Municipalities with a municipal service

Of the eight cases, three municipalities have a municipal service for the collection of household waste. These municipalities are Limedale, Myrtlefield and Olivetown. With regard to these municipalities not much has been put down in writing. Our description of the organization of household waste collection is, therefore, mainly based on interviews and the Organization Ordinance⁴ of the particular municipalities. In the description of the governance structures we pay attention to administrative support (including enforcement procedures), the degree of incentive intensity, dispute settlement and ownership. The two remaining elements of contract law – duration and degree of completeness – are not relevant here.

6.2.1.1 Limedale

Limedale is the largest city in its region with a population of about 95,000 inhabitants. It is a city in which waste collection is organized in a municipal service. Table 6.1 shows the waste collection model of Limedale. The city has just finished a discussion on the essential tasks of the municipality. This also focused on the question whether waste collection should be carried out by the municipality itself or not. This question was answered positively, for the time being, because it was expected to be a topic on the agenda of the municipal council within a year or two (1)⁵. This led to a constant feeling of uncertainty. Furthermore, the waste management department had to cut the waste budget in recent years. This, however, stimulated the department to work more efficiently by reviewing and changing the waste collection infrastructure and by working with temporary employees (in this way the municipality was able to work with a flexible group of employees who are paid per hour). The department looked at personnel as well as material and managed to use these more efficiently (1). For the time being there was no reason to change the governance structure. The expectation was that contracting out would not lead to a significantly better performance. Furthermore, such an operation would probably give additional difficulties. Contracting out, for example, requires a definition and interpretation of the municipality's task as a principal in relation to an agent. Finally, an advantage of the municipal service is that it can in a social sense deviate from an employer's role in a private company (1).

4. In Dutch *Organisatieverordening*.

5. Numbers refer to quotes by respondents listed anonymously in Appendix A.

6.2 Waste collection in eight Dutch municipalities

	Method of collection	Frequency / Density*
Residual waste		
Low-rise residential areas**	wheelie bins	fortnightly
High-rise residential areas***	containers	2 times per week
Centre	binbags	weekly
Organic waste		
Connection rate	80%	
Low-rise residential areas	wheelie bins	fortnightly
High-rise residential areas	-	
Centre	-	
Paper		
Door-to-door collection	wheelie bins/local associations	more than 12 times annually
Disposal facility	containers/civic amenity site	1 on 2,785 inhabitants
Glass		
Door-to-door collection	-	more than 12 times annually
Disposal facility	containers/civic amenity site	1 on 2,367 inhabitants
Textiles		
Door-to-door collection	charitable institution	5 times annually
Disposal facility	containers/civic amenity site	1 on 4,509 inhabitants
Hazardous waste		
Door-to-door collection	-	-
Disposal facility	civic amenity site	more than 40 hours weekly
Bulky waste		
Door-to-door collection	yes	fortnightly/free of charge
Disposal facility	civic amenity site	30 to 40 hours weekly

Table 6.1: **Waste collection model Limedale 2005** (SenterNovem Uitvoering Afvalbeheer/Cyclus, 2005) (*Inhabitants per pick up point **Areas largely consisting of low-rise buildings ***Areas largely consisting of high-rise buildings)

Administrative support So, in this case, we are dealing with a municipality with a municipal service. It is, therefore, important to take a closer look at the model of the municipal organization. In the organization model of this municipality waste collection is a part of the sector City Maintenance (one of thirteen sectors). The management of sectors takes place on the basis of a one year program per sector. In this program agreements are laid down concerning the results that have to be achieved in that year and the resources available to that end (Organization Ordinance Limedale). This concerns a task setting budget, which means that the sector is managed on the basis of costs. To enable him to fulfil the tasks laid down in the one year program, all necessary powers are mandated to the sector head. Besides that, every two weeks the sector head and one of the Aldermen have a meeting in which the state of affairs and progress with regard to particular tasks are discussed. If necessary, the head of the department of waste collection joins this meeting. The relationship between the department of waste collection and the municipal executive is informal in nature. Most issues are decided upon in a formal process, but mostly, issues have already been presented to one of the Aldermen in an early stage to initiate policy changes quickly.

In Limedale, the waste management department is relatively independent from the sector City Maintenance. The actions of this department are governed by the waste management plan. This mainly focuses on the environmental objectives. Besides this plan, the municipal waste charge is a dominant factor. This charge is determined once a year based on the plans of the waste management department and on the basis of a budget that is reserved for waste management activities. Two or three times a year the head of the department has to report to the sector head of City Maintenance and the municipal executive. The department determines how waste collection takes place on the basis of the triangle of costs, service delivery and environment. In this way the head of the waste management department has much freedom to manage the department. In addition, the distance between the head of the department and the employees, the dustmen, is a very small one. This is not only meant metaphorically, but also literally because the whole department is located in one building. There is an informal culture. In particular the interaction with the team managers is frequent. In this way, the employees are the eyes and ears of the management and the local politicians. The distance between the management of the department of waste collection and residents of the municipality is accordingly small. This is seen as a healthy situation, because the residents of the municipality are considered to be the ultimate employers (1).

The head of the department not only manages the provision of waste collection, but also city maintenance. He, therefore, does not spend all of his time managing waste collection. The department employs one policy officer who is concerned with the waste

management plan, operational policy and communication. With regard to the operational management, one manager and three team leaders manage the process of waste collection. The manager, for a part of his time, is involved in policymaking for waste management. He is concerned with translating the operational level to the policy level. Services such as personnel administration and finance are organized centrally in the municipal organization. This means that all employees of the department are directly involved in the execution of tasks relating to waste collection and not concerned with all kinds of support services.

Enforcement procedures The management of the department of waste collection monitors and is in turn monitored itself on several aspects of the household waste collection. The management is monitored on hours spent on activities. Team managers monitor the activities of dustmen in the street. The quality of service delivery is, however, not sufficiently well described to function properly as an instrument for managing and control. The difficulty arises from the fact that it is difficult to specify appropriate indicators (1).

Besides this, there is political control. This is however not very intensive. As long as household waste is collected according to residents' expectations, waste collection is hardly a topic in the municipal council or municipal executive. There are, however, some fixed moments in time in which household waste collection is an issue. Once in every four years, the municipal council determines the municipal waste plan. Furthermore, it determines the municipal waste charge every year. In the current Dutch local political system, the municipal executive is responsible for the execution of plans. This is also true of the waste plan. Measures to execute this plan are submitted for approval to the municipal executive while the municipal council is not involved in this. If things go well, the municipal council is not further concerned with waste collection.

Incentives Incentives are not built in as part of the governance structure in this municipal service. However, there are external incentives. Firstly, benchmarks are used to compare the municipal service of Limesdale with the provision of household waste collection in other municipalities. Consequently, the municipal service has to keep close control on the costs and on the quality of service delivery and environmental performances. Secondly, the ongoing discussion on essential tasks of the municipality stimulates the municipal service to pay attention to its performance.

Dispute settlement Disputes are settled within the municipal organization through hierarchy.

Ownership All waste collection means, systems and infrastructure, dustcarts and personnel are owned by the municipality.

6.2.1.2 Myrtlefield

Myrtlefield is a municipality in the western part of the Netherlands. It has a population of about 80,000 inhabitants. Table 6.2 shows the waste collection model of Myrtlefield. Most striking is the fact that Myrtlefield uses dual bins and that the civic amenity site is normally free of charge. In Myrtlefield household waste collection is traditionally organized in a municipal service. Myrtlefield is a city in which the general opinion is that these kinds of services should be produced by the municipality itself. There is no immediate reason to autonomize or privatize the provision of waste collection, since the provision of waste collection is carried out without problems, while the municipal waste charge is relatively low (which is partly caused by a low tariff of incineration (3)). Two years ago, there was a discussion on the future organization of waste collection. This did not yield any new insights. The municipality of Myrtlefield views the provision of waste collection as having an important symbolic function because it is a visible public service. Why contract out if the municipality is capable of doing it itself (3)? The idea is that if the provision of waste collection is well organized, it does not have to be more expensive than for example contracting out. Moreover, the quality of the service delivery is highly valued. The chances that things go wrong are expected to be larger in case of contracting out (2).

Administrative support The organization model of the municipality of Myrtlefield comprises of seventeen departments. Three directors manage the municipal organization, each having his own field of attention. They form the bridge between the municipal organization and the municipal executive. In this model, waste management is part of a larger department which is responsible for transport, sewerage and waste. The municipal executive is the principal of the municipal organization. This means that the municipal executive demands a product of the municipal organization to be delivered at an agreed moment of time on the basis of a description of qualitative requirements and conditions determined beforehand (Article 7.1 Organization Ordinance Myrtlefield). The department has, within a fixed framework of directives, a substantial amount of autonomy. The department is responsible for its own daily management, coordination and consultation, deployment and maintenance of assigned resources and planning of activities. Furthermore, the department has to report to the municipal executive on performance, make periodical evaluations of activities, call in other departments in issues where they intersect with those departments and consult with and give feedback to the municipal

6.2 Waste collection in eight Dutch municipalities

	Method of collection	Frequency / Density
Residual waste Low-rise residential areas High-rise residential areas Centre	dual bins containers containers	weekly
Organic waste Connection rate Low-rise residential areas High-rise residential areas Centre	98% dual bins containers containers	weekly
Paper Door-to-door collection Disposal facility	- containers	1 on 641 inhabitants
Glass Door-to-door collection Disposal facility	- containers	1 on 773 inhabitants
Textiles Door-to-door collection Disposal facility	local associations containers	yearly 1 op 3,757 inhabitants
Hazardous waste Door-to-door collection Disposal facility	chemical waste collector chemical waste depot on civic amenity site	on call more than 40 hours weekly
Bulky waste Door-to-door collection Disposal facility	yes civic amenity site	on call more than 40 hours weekly

Table 6.2: **Waste collection model Myrtlefield 2005** (SenterNovem Uitvoering Afvalbeheer/Cyclus, 2005)

executive (Article 2.3 Organization Ordinance Myrtlefield).

With this amount of autonomy, the department is formally at arms' length of the municipal executive. It is felt, therefore, that not much contact is needed between the department and the municipal executive. The idea behind this model is that it should be sufficient to write an industrial plan, a budget and an annual report. In this way departments would indeed be more at a distance from the municipal executive. This is, however, theory. In practice, the head of the department consults with one of the Aldermen every two weeks (3). Many issues still have to be discussed with the municipal executive (3), which makes the municipal organization inert (2). The department anticipates this inertia. Relationships are quite informal, which makes it possible to raise issues in an early stage. In this way issues reach the agenda in time. This goes two ways, top down and bottom up. With 100 employees performing the job, the scale of the department is still such as to enable the head of the department to know everyone. Problems are, therefore, easily solved. The small distance between management and employees offers the department the opportunity to provide extra service and to remove bottlenecks immediately. The department has detailed knowledge of the local situation and is acquainted with the residents who call with problems. Furthermore, there is frequent communication between employees and management, while issues can also be put on the agenda by the employees (2). Partly this is a consequence of the structure of the municipal service, but it is also dependent on the people who occupy relevant positions. For example, the head of the department is an expert in the field. This makes a big difference (3). Changes that have to be implemented top down, are communicated to the employees in an early stage. In this way, employees can anticipate them by adjusting their planning. This prevents employees from becoming all too inflexible, since, in general, they exhibit a strong inclination to cling to their habitual way of working (3).

The provision of waste collection is organized as follows. The department has two team managers who are assisted by coordinators. They manage the employees who perform all the activities concerning the collection of waste. Team managers as well as coordinators focus on the tasks that have to be performed. Fortnightly, the management of the department and the team managers have a meeting. The team managers are responsible for matters concerning personnel. In relation to that, they have budgetary responsibility and they are responsible for supervising employees in case of absence through illness. Policymaking on the provision of waste collection is a responsibility of the head of the department. He has the assistance of a secretary, an advisor and a project manager. The assistance concerns all fields of the department, not only waste collection. Formally, policy is located in a different department which is responsible for all policy issues within the municipality. In practice, the department itself has to set out policy in the field of

waste collection, because the policy department is not adequately equipped for that task. The head of the department undertakes this together with his advisor and occasionally the project manager. The advisor spends 40 percent of his time on waste collection. This means that there is little capacity to formulate policy. In the future, the department might have to hire someone to do this. In the current situation, there is no problem, because the head of the department is an expert in the field of waste collection. If this accidental situation were different, it would be difficult to keep up with all developments in waste management. Support services such as personnel administration and finance, are organized centrally in the municipal organization.

Enforcement procedures The management of the department is monitored on several aspects. It is fairly easy to get an insight into the amount of waste collected, the hours spent on waste collection and the costs involved (3). Monitoring also takes place on the basis of registration of complaints. It is requisite that the number of complaints be kept small. It is however, difficult to distinguish between complaints, questions and requests. In addition, some problems that cause many complaints are solved by changing the way of working. Illegally dumped waste, for example, is collected daily to prevent problems (3). Furthermore, team managers and coordinators supervise their employees. However, this does not extend to team managers, as was formerly the practice, observing employees in the execution of their tasks or activities, for example, on the street (3). Employees are now trained in a different way. They are themselves responsible for the way in which they do their job. The idea behind this way of working is that they can control themselves. Team managers and coordinators only direct them in the execution of their job. Employees enjoy their trust. In general this works well (3).

Political control mainly takes the form of controlling the costs of the provision of waste collection. Normally, this is only a topic once a year when the municipal waste charge and the budget are determined.

Incentives As far as incentives as part of the governance structure are concerned, there are none. One other mechanism that works as an incentive is the taboo on raising the municipal waste charge, which in turn stimulates the department to keep the costs low.

Dispute settlement Disputes are settled within the municipal organization.

Ownership All waste collection means, systems and infrastructure, dustcarts and personnel are owned by the municipality.

6.2.1.3 Olivetown

Olivetown is a municipality with a population of about 35,000 inhabitants. Table 6.3 shows the waste collection model of Olivetown. Olivetown organizes the collection of household waste in a municipal service. Olivetown is considerably smaller than the other municipalities, except Indigoford. Furthermore, the degree of urbanization of Olivetown is the same as of the other municipalities and, not unexpectedly, it has similar problems as the larger cities. Olivetown puts the quality of service delivery first. Low costs of waste collection are not a priority, because Olivetown is a rich municipality whose inhabitants want a clean city even if they have to pay a higher municipal waste charge (20). Olivetown provides most public services itself. This is a political choice. Contracting out is not an option in light of this general policy. By reviewing the method of waste collection critically, the municipality is able to limit the costs. In recent years, the department has cut down the budget. Although the performance of the department of waste collection is considered good, Olivetown is confronted with the fact that other municipalities in the region are looking for ways to cooperate. Apparently, Olivetown will not be able to ignore this. This not only concerns waste collection, but the complete range of public services. Finally, hardly any institutional aspect of the governance structure is put down on paper. The municipality has no Organization Ordinance. Municipal officials view their municipal organization as slightly anarchist (20). Concerning personnel there are, evidently, agreements that the municipality has to comply with.

Administrative support Olivetown has an organization model which consists of eleven departments. Olivetown has two directors. Either coaches a number of departments, each of which is managed by a manager. Waste collection is organized within one department. The department consists of the head of the department who spends 70 percent of his time on waste collection. He is responsible for matters concerning personnel, information, organization, finance, automation and housing within certain constraints. He is assisted by a management assistant for 20 percent of his time. In addition, a manager and an assistant-manager supervise the execution of waste collection. The manager is given a mandate as a budgetholder. One employee staffs the telephone and helps residents who want to dispose of their waste. Every week there is a meeting between the head of the department, the management-assistant, the manager and the assistant-manager. The meeting takes an hour or an hour and a half in which consultation on and coordination of activities takes place. The department no longer has a policy officer. It reserved 10,000 to 20,000 euros for policy advice. The department hires someone from a private consultancy to perform policy tasks such as writing policy plans and phrasing amendments to the waste ordinance. During the period of this research, one consultant

6.2 Waste collection in eight Dutch municipalities

	Method of collection	Frequency / Density
Residual waste Low-rise residential areas High-rise residential areas Centre	wheelie bins containers	fortnightly
Organic waste Connection rate Low-rise residential areas High-rise residential areas Centre	wheelie bins - -	fortnightly
Paper Door-to-door collection Disposal facility	yes paper containers	monthly 1 on 1,193 inhabitants
Glass Door-to-door collection Disposal facility	- glass containers	1 on 1,081 inhabitants
Textiles Door-to-door collection Disposal facility	yes yes	4 times annually 1 on 2,883 inhabitants
Hazardous waste Door-to-door collection Disposal facility	yes civic amenity site	more than 4 times annually
Bulky waste Door-to-door collection Disposal facility	yes civic amenity site	on call/free of charge

Table 6.3: **Waste collection model Olivetown 2006** (SenterNovem Uitvoering Afvalbeheer/Cyclus, 2006)

was hired for one day a week.

The department can operate relatively independently from the municipal organization and the municipal executive. Fortnightly or sometimes only monthly, the head of the department, one of the directors and one of the Aldermen meet. When he was hired, the head of the department was told: the department is yours (20). The municipal executive and director put their trust in the head of the department as long as he observes the rules. During meetings with the Alderman plans and policy changes are discussed. Mostly, the municipal executive relies on the knowledge and advice of the manager and follows his advice.

Enforcement procedures The head of the department keeps in close touch with the employees of his department. This is seen as a surplus value of a municipal service. The head of the department knows what is going on and can intervene if necessary. The manager and assistant-manager assist him in that. He himself will take a look if the municipality receives a complaint. The municipality also holds meetings with residents of every district of the municipality. The points raised at meetings are immediately taken care of. This is also the case if the Alderman raises an issue in reaction to a question or complaint of a resident of the municipality.

The department registers complaints. Sometimes a survey is conducted on the degree of satisfaction of residents with the provision of public services. Waste collection always scores high (20). Complaints that are reported on a particular day are solved or dealt with on that very same day or at least the day following. A lot of things are already taken care of by the dustmen themselves. They know the residents of the municipality. In other cases, the head of the department or the manager react to complaints by making a phone call to the complainant, in this way trying to solve things right away. With a municipal service it is possible to react to complaints directly. Although many complaints turn out to be consequences of residents' behaviour, the policy is directed at solving all problems irrespective of the sources since it is often not possible to prove the negligence of the residents (20). In general, it does not pay to enter into a discussion on which party is to blame.

Political control takes place when the budget is submitted for approval to the municipal council. One of the controllers of the department of finance controls the budget and demands further explanations in case of under- or overspending of the budget. Furthermore, municipal councillors receive complaints of residents and react by asking questions to the municipal executive or directly to the manager of the department. The relationship with municipal councillors is good. They contact the manager when they receive complaints from residents. The distance between the municipal council and the department

of waste collection is therefore short.

Incentives There are no built-in incentives in the governance structure. Neither are there other mechanisms that could be conceived of as incentives. The quality of service delivery has priority, not the reduction of costs.

Dispute settlement Disputes are settled within the municipal organization.

Ownership All waste collection means, systems and infrastructure, dustcarts and personnel are owned by the municipality.

6.2.1.4 Discussion of municipalities with a municipal service

The municipalities in this section show much overlap. They are all characterized by low incentives and high administrative controls. The incentives that exist in these municipalities cannot be conceived as part of the incentive structure of the municipal service itself. Apart from this, other incentives have not been observed. As to administrative controls, we see that within the municipal service the hierarchical relationships serve as means of adaptation. This works both bottom-up and top-down. Adjustments are made smoothly because the different levels in the municipal organization communicate regularly and are in close touch with each other. Often, they are located in the same building. Dispute settling and enforcement are carried through within the hierarchy, which means that they are part of the administrative controls. It is also striking that very few issues are put down on paper and agreed on in advance.

6.2.2 Municipalities contracting out to private firms

The second group of municipalities contract out household waste collection to private firms. We describe two municipalities, Denimborough and Indigoford. In these cases a Service Level Agreement (SLA, henceforth) or Specification is the basis of the governance structure. Compared to municipal services, these governance structures involve much paperwork. We analyse the SLA or Specification⁶, the Organization Ordinance and the data gained from interviews. Important elements to discuss are the way in which the contract is agreed upon, what is laid down in the contract and how agreements are enforced. We discuss the level of administrative support, the extent to which incentives are used and elements of contract law, to wit contract duration, degree of completeness,

6. Although the SLAs and Specifications analysed in this study are classified, we will refer to the articles of these agreements and contracts for reasons of completeness and consistency.

dispute settlement and enforcement procedures. We also pay attention to ownership of assets.

6.2.2.1 Denimborough

Denimborough is a municipality in the middle of the Netherlands with a population of about 140,000 inhabitants. Waste collection is carried out by a private company. The waste collection model is shown in Table 6.4. More than ten years ago, in 1994, Denimborough created a public company for waste collection. The shares remained in the hands of local authorities. Denimborough initially had a share of 75 percent. In 2002, Denimborough and the other municipalities sold their shares to a commercial organization in the wake of the privatization trend and in accordance with the political colour of the municipal executive and municipal council. The contracting relationship continued to be based on the same SLA as in the period before, when the shares were still in the hands of local authorities. In 2006, Denimborough put waste collection out to tender and the same private company gained the tender for a period of four years with an option to prolong the contract twice with one year. Our research focuses on the period before 2006, the situation in which Denimborough had contracted out the provision of waste collection to a private company on the basis of a SLA.

Contract law In the relevant period waste collection was contracted out on the basis of a SLA. Here we discuss the degree of completeness, enforcement, duration and dispute settlement indicated in the SLA.

Degree of completeness In the SLA the parties to the contract agree upon a standard package of service delivery with regard to the execution of the private company's task. The SLA stipulates that the company will perform all duties that are reasonably necessary to achieve an efficient and high-quality execution of waste collection in accordance with the applicable rules (Article 1.2 SLA). In addition, the company shall provide additional custom-made services to achieve a better service level, a clean street scene and a high environmental performance. Relating to this, the company must aim at reducing costs by working effectively and efficiently. Furthermore, general conditions are specified regarding the execution of tasks. Requirements concerning material and personnel are contractually laid down (Article 1.6 to 1.12 SLA). Material has to be especially designed for the collection of specific types of waste, collection vehicles must have such provisions as to prevent them from losing liquid and they must be equipped with reversing signals (Article 1.7 SLA).

6.2 Waste collection in eight Dutch municipalities

	Method of collection	Frequency / Density
Residual waste		
Low-rise residential areas	wheelie bins	fortnightly
High-rise residential areas	containers	
Centre	binbags	weekly
Organic waste		
Connection rate	60%	
Low-rise residential areas	wheelie bins	fortnightly
High-rise residential areas	containers	
Centre	-	
Paper		
Door-to-door collection	local associations	monthly
Disposal facility	maritime containers	1 on 6,436 inhabitants
Glass		
Door-to-door collection	-	
Disposal facility	containers	1 on 1,416 inhabitants
Textiles		
Door-to-door collection	reuse store	6 times annually
Disposal facility	containers	1 on 4,290 inhabitants
Hazardous waste		
Door-to-door collection	-	
Disposal facility	chemical waste depot on civic amenity site	more than 40 hours weekly
Bulky waste		
Door-to-door collection	yes	weekly/free of charge
Disposal facility	civic amenity site	more than 40 hours weekly

Table 6.4: **Waste collection model Denimborough 2005** (SenterNovem Uitvoering Afvalbeheer/Cyclus, 2005)

Several aspects of the collection duties are specified in more detail. Every task is described in terms of environmental result, service delivery (duties, conditions and quality requirements) and tariffs. Below, we discuss the most important elements. Waste which is not offered correctly, still has to be collected by the private company (Article 2.8 SLA). The private company informs the municipality if waste is not offered properly (Article 2.8 SLA). Waste that has been dumped in the surroundings of waste containers has to be collected. If the waste is too large, it has to be collected in the next bulky waste collection round (Article 2.11 SLA). The activities are to be performed in such a way that spilled waste is collected immediately (Article 2.11 SLA). Kerbsides and collection sites have to be kept clean (Article 2.12 SLA). Parties to the contract agreed on solving all problems irrespective of the source of the problem (6). More specifically, each Friday afternoon the streets have to be clean for the weekends (6). With regard to the collection of bulky waste, the SLA stipulates that it has to be collected as soon as possible but no later than 5 days after a resident's report (Article 2.12 SLA). Another aspect of the collection duties is the environmental performance. This is an important performance indicator. The private company has to map environmental performance. An independent bureau conducts waste sorting analyses. If necessary, follow-up activities shall be undertaken to improve performance. In addition, with regard to the civic amenity site, the parties jointly see to its management and exploitation, the required permits and keeping it clean. The company has to see to it that the employees of the civic amenity site are customer-friendly (Article 2.13 SLA). The municipality as well as the private company are responsible for educating residents. They both have the duty to instruct residents on unacceptable behaviour with regard to offering waste. Although the SLA clearly and accurately states what the duties regarding communication and information are, it is not a priority of the private company (4).

The agreement leaves open possibilities for changes in the tasks of the private company. The municipality has the right to assign to the private company in writing changes in its tasks and activities (Article 1.4 SLA). The private company is obliged to observe the assigned changes. The municipality shall announce these kind of changes in writing and consult with the private company in advance. The private company must properly inform the municipality if these changes have consequences for the costs of the tasks. If these consequences are the effect of governmental measures, they are in principle at the private company's expense and risk. The municipality is entitled to hire a third party to analyse the information on the consequences for the costs provided by the private company. The municipality and the private company shall adjust the fees in mutual consultation. If these changes can be regarded as unforeseen, the parties will make further agreements within a reasonable amount of time, in which the interests of both parties

and the purpose and content of the SLA will be taken into account (Article 5.3 SLA).

Enforcement procedures Under the heading ‘conditions and control’, the agreement regulates how the fulfilment of the duties by the private company must be reported to the municipality. The regulation requires a compulsory yearly report, quarterly reports and weekly overviews (Article 4.1 SLA). On the basis of these reports the municipality assesses what should be improved or adjusted. At the end of the year, conclusions are drawn in terms of sanctions or adjustments to the agreement. If the execution of duties does not conform to the agreement, the municipality is entitled to fine the private company.

In addition, monitoring of activities takes place. This occurs monthly at random (Article 4.2 SLA). For a while, the municipality did this in a very fanatical way (4). Municipal officials followed collection vehicles to see whether dustmen performed their duties appropriately, for example, whether they swept around glass containers. Their findings were reported to the private company. This practice has ceased to exist. The municipality now relies on inspection rounds that are made four times a year during the execution of activities (6) (Article 4.2 SLA). These inspection rounds are made by the municipal officials and the operational manager of the private company together to see whether there are problems (6). Furthermore, the private company employs three supervisors who monitor the execution of the activities. They keep an eye on the performance of dustmen and solve eventual problems. Through these supervisors there is frequent contact between the municipality and the executors (4), which secures a direct connection between the private company and the municipality. The meetings offer the opportunity to coordinate and tune activities. The problem remains that, although all details are laid down as clearly as possible, full agreement on what is included in the SLA and what is not is an unattainable ideal (6). Furthermore, the question always remains how the municipality has to act if something is not executed properly. In the SLA sanctions are laid down, but the private company can always find a way to avoid these, since it has a whole year to satisfy the agreements and quality requirements laid down in the SLA (Article 5.1 SLA). Only if the municipality, after a year, again finds that the execution of activities does not conform to what has been agreed upon, the municipality is entitled to terminate the agreement or to fine the private company (Article 5.1 SLA). The question is, however, what purpose is served by sanctions (4). The only thing that really matters to the municipality is that all duties are executed properly (4). Finally, the municipality has a complaints registration system. This system keeps record of all complaints regarding service delivery of the municipality. Also complaints on waste collection can be reported. This system provides the municipality with additional information on the execution of

tasks.

Duration The duration of the SLA is 6 years.

Dispute settlement Disputes are settled by the court in Denimborough. Until now this has never occurred.

Administrative support The municipality's organization model consists of sixteen departments, where the operation is based on the concept of self management. Waste collection is organized within the department of city maintenance. Each department is managed by a director. The main tasks of the directors are managing activities that are needed to produce or deliver products determined by the municipal executive, reviewing proposals of the municipal executive and contributing to tasks of the team of directors (Article 7.4 Organization Ordinance). The directors periodically consult with one of the Aldermen and they manage personnel affairs. The directors periodically account to the municipal executive regarding the performance of their departments. They are parties to result-oriented agreements laid down in a management contract (Article 7.11 Organization Ordinance).

At the time of our study, three municipal officials were charged with waste collection. The municipal officials have a multitude of tasks: from solving the problem of an illegally dumped binbag to policymaking on waste collection for the coming five years. The municipality, therefore, really needs this number of officials in the field of waste collection (4). The separation between management and execution of tasks as a consequence of the privatization has certainly contributed to the need for this personnel. It demands a more strict direction by municipal officials who must have a thorough knowledge of the field (4). The tasks of municipal officials are twofold: policymaking and contract management. Policy making concerns the waste plan and, more generally, waste policy. Contract management involves managing costs, service delivery, environmental performance, dealing with complaints, managing communication and enforcement. Finances have always been a main concern of the municipality of Denimborough. With the establishment of the public company, municipal officials have emphasized the costs of waste collection. They focused attention on ways to reduce costs (such as changing the routes of collection vehicles). This has set the tone. With the sale of the public company that tone has only become more dominant (4).

The municipality manages the bilateral relationship with the private company on the basis of two main points, to wit, finances and service delivery. The municipality increasingly manages on the basis of output. Monthly, a meeting takes place in which all points

are laid down in a detailed list of agreements, which is added as an appendix to the SLA every year (Article 4.2 SLA). In addition to these meetings there is as much consultation as is deemed necessary. Occasionally, the frequency of meetings rises. In these meetings, the attitude of both parties is solution-oriented. Everyone contributes to this atmosphere. Both parties have the intention to solve problems and make efforts to strike the right tone (6). Although the relationship is formal, the supplementary informal network is necessary to remove problems and difficulties. Frequent contacts between the supervisors of the private company and the municipal officials support this network. Also, the SLA offers the opportunity to solve problems in a flexible way (6). Agreements can, therefore, be reached harmoniously and flexibly. The relationship between the municipal officials of the department of city maintenance and the operational manager of the private company is informal. However, in recent years it has gradually grown more formal. Contacts have diminished. The same occurs with the exchange of knowledge as a result of cutbacks by the private company. All in all the relationship has become more businesslike (4). The interests of both parties are different. The private company is willing to think along with the municipality. However, its view on things is mainly determined by its own interests, not those of the municipality (4). The private company has to take into account the consequences for the execution and planning of its own activities. In addition, the private company has to take into account its shareholders, since it is part of a multinational in which revenues are predominant.

A final element that is relevant to discuss in relation to administrative support is the role of politicians. In Denimborough, politicians react quickly to questions and complaints from residents. Regularly, complaints find their way to the municipal executive. Residents write letters or visit during office hours. In these cases, quick action has to be taken by the municipal officials. This can, however, not be done without consulting the SLA first. The SLA has to be consulted to find out what certain actions mean in light of agreements and whether it leads to extra work.

Incentives In this governance structure of contracting out, incentives are embedded in the way the private company is remunerated. The municipality pays the private company on the basis of unit prices – ton prices – instead of by the hour. Consequently, the financial risks lie with the private company. In this way, the private company has an incentive to work more efficiently. This is a great difference in comparison with the previous situation, in which a public company was responsible for the collection of waste. In this earlier situation, the municipality paid extra when disappointments occurred or received extra when all ran smoothly. This arrangement offered no incentives. Another incentive, which is not part of the governance structure, but is closely related to it, is the desire

of the private company not to lose the municipality as a customer. The municipality is relatively large and, therefore, the private company cannot afford to lose the municipality as its principal. Consequently, the private company takes an interest in cherishing a good relationship with the municipality. Since the duration of the contract is relatively short, it pays to comply with the contract to establish a good reputation.

Ownership A final element to address is the ownership of material and personnel, which is rather mixed. Personnel and collection vehicles are owned by the private company. A part of the collection means (wheelie bins and underground containers) is owned by the municipality and the other part by the private company. The SLA regulates that in case of termination, the municipality is entitled to the delivery by the private company of all means that are reasonably necessary for the collection of household waste. In return for these means, the municipality pays the private company a reimbursement determined by an independent assessor (Article 1.5 SLA). After 2006, when the provision of waste collection was put out to tender, the municipality chose to gain ownership of all collection means itself. In this way, the independence of the municipality is guaranteed and it is easier to select a different waste collection company with a new tender. Furthermore, by owning collection means, the municipality is able to determine the method of collecting waste. The ground on which the civic amenity site is located is also owned by the municipality. This also determines the degree of independence it enjoys.

6.2.2.2 Indigoford

Indigoford is considerably smaller than the other municipalities, except for Olivetown. However, it is comparable to the other municipalities in that it has the same urbanization class. It lies in the western part of the Netherlands and has a population of about 40,000 inhabitants. Indigoford, just as Denimborough, contracts out waste collection to a private company. The governance structure of Indigoford differs in that waste collection was put out to tender. The waste collection model is shown in Table 6.5. The decision to contract out waste collection has been reached gradually. Before putting it out to tender, Indigoford provided household waste collection through an inter-municipal cooperation. After five years, the inter-municipal cooperation was evaluated and dissolved because it had failed to achieve its objectives of growth. Then, the decision was made to contract out waste collection instead of returning to a municipal service. This was in accordance with ideas resulting from a discussion on the essential tasks of the municipality. These ideas have led Indigoford to contract out most of the maintenance tasks, of which the collection of waste is one. Waste collection is also a maintenance task in the public area. The opinion in Indigoford is that such a maintenance task must not be executed by the

6.2 Waste collection in eight Dutch municipalities

	Method of collection	Frequency / Density
Residual waste Low-rise residential areas High-rise residential areas Centre	wheelie bins containers binbags	fortnightly
Organic waste Connection rate Low-rise residential areas High-rise residential areas Centre	wheelie bins containers -	fortnightly
Paper Door-to-door collection Disposal facility	yes paper containers	monthly 1 on 1,006 inhabitants
Glass Door-to-door collection Disposal facility	- glass containers	1 on 1,751 inhabitants
Textiles Door-to-door collection Disposal facility	containers	1 on 4,502 inhabitants
Hazardous waste Door-to-door collection Disposal facility	yes yes	2 to 4 times annually
Bulky waste Door-to-door collection Disposal facility	yes civic amenity site	op call/free of charge

Table 6.5: **Waste collection model Indigoford 2006** (SenterNovem Uitvoering Afvalbeheer/Cyclus, 2006)

municipality itself. A municipality has to focus on the tasks it is good at: direction and policy (9).

Contract law Indigoford contracts out to a private company on the basis of a tender. In this case, waste collection companies submit a bid on a Specification of what is expected from the waste collection company that is granted the assignment. The lowest bidder is assigned the task (Article 12 Specification).

Degree of completeness The Specification analysed below in this study, is the second Specification Indigoford has ever made with regard to the collection of household waste. The second Specification is considerably more detailed than the first (9). All kinds of details of the provision of waste collection are being taken into account that were ignored in the first Specification. On the basis of the experience with the first Specification, the municipality has been able to be more precise. Examples are rules with regard to

giving yellow and red cards in case of offences, to determining who is responsible for weeding the civic amenity site and who must bear the expenses. Another example is the assignment of the task of clearing rubbish around underground containers (which was formerly poorly regulated, but is now clearly defined (9)). These details had all influence on the price, but the advantage is that it is now clear what the responsibilities of each party are. The price is still very competitive, which is all the more reason for the Specification to be precise all the more.

The program of requirements of the Specification consists of a number of specific demands regarding the execution of the collection of waste. Below, we describe some examples to indicate the precision of the requirements and, therefore, the completeness of the contract. With regard to the actual collection of waste the program of requirements states that the waste collection company should dump all waste in the dustcart. Waste that is spilled during the loading of the dustcart has to be cleaned immediately (Article 13 Specification). With regard to material, one of the requirements is that measures should be taken to prevent dustcarts, which are designed for the collection of organic waste, from losing liquid (Article 15 Specification). Concerning the waste collection route, the Specification determines that without permission of the municipality, the waste collection company is not allowed to deviate from the routes determined in advance (Article 16 Specification). The Specification, furthermore, contains rules concerning the period of time in which the company is allowed to collect waste. The company is not allowed to start before 7h30, while the activities have to be completed before 18h30 at the latest (Article 17 Specification). With regard to the collection and transport of residual waste and organic waste, the Specification regulates that the dustmen shall check by eyesight whether the organic waste stream is polluted with residual or hazardous waste (Article 18 Specification). In addition the Specification comprises some requirements concerning incorrect offers of waste, complaints and registration. When waste is offered incorrectly, the waste collection company shall stick a yellow or red card on the wheelie bin (Article 19 Specification).

Complaints of residents about the collection of waste are reported to the municipality directly. In consultation with the waste collection company, the municipality ensures a good and quick settlement of the complaint. If residents turn to the waste collection company with their complaints, they are referred to the municipality (Article 19 Specification). Wheelie bins that have not been emptied at the regular time, are to be emptied on the same day if reported before 15h00 (Article 19 Specification). With regard to the collection of waste in underground containers the following is laid down in the Specification. All waste that lies in the direct surroundings of (underground) containers needs to be removed daily. Spilled waste that apparently originates from the container must also

be removed. All sites need to be sweeping clean once a day (Article 20 Specification). The waste collection company reports to the municipality all instances in which waste has been illegally put beside containers after completion of the waste collection route and the cleaning round (Article 20 Specification).

With regard to the collection of bulky waste, specific requirements are laid down. The waste collection company has to limit the period between residents' reporting bulky waste and its collection. Residents should be able to report bulky waste to be collected up to two days before the collection day (Article 23 Specification). The Specification determines, furthermore, with regard to the maintenance of the civic amenity site, that the waste collection company has to keep the site free of weeds (Article 24 Specification). In addition, the waste collection company is not allowed to use the building on the site of the civic amenity site (Article 25 Specification) and the company itself must take care of a mobile accommodation for its employees. Connection to and use of the sewerage or energy supply are at the expense and risk of the company. Full containers must be transported and replaced by empty containers. The change of containers has to take place in time, but containers have to be filled up as much as possible (Article 26 Specification). While the change of containers takes place, the company must take sufficient organizational and technical measures to guarantee the safety of visitors and employees (Article 26 Specification). The company, furthermore, must ensure an economic final processing of waste (Article 26 Specification). All signs on the civic amenity site have to be uniform to colour combination and typeface to the satisfaction of the municipality (Article 26 Specification).

It is possible to make adjustments to the agreements of the Specification. If administrative and/or statutory decisions or new developments in the field of waste collection occur of the sort that the other party cannot reasonably and fairly expect the unaltered preservation of the requirements of the Specification, parties have to consult on adjustment of the current conditions. Parties shall cooperate in mutual consultation (Article 5 Specification). All in all, there is some flexibility. As the years pass by, matters are further crystalized out. New issues keep coming up. In that respect, it is important to comprehend each others' positions and to be able to make new agreements (10).

Enforcement procedures Parties treat the Specification in a formal fashion. In the Specification, all aspects of the provision of waste collection are laid down. Furthermore, the municipality sets great store by the role of supervisor. The supervisor controls whether and how the work is actually done. The municipality of Indigoford is of the opinion that to be a good principal, the municipality has to manage and have contact with the dustmen on a daily basis. Therefore, the supervisor is on the street. The supervisor has

built up a relationship with the dustmen. Consequently, the supervisor is able to contact them directly if something goes wrong. The supervisor does not have to take the official line. If necessary the supervisor takes pictures with a digital camera to obtain evidence of problems and sends them to the private company within a few minutes. In addition, the municipality has a complaints department to which residents can report their complaints (Article 19 Specification). Furthermore, the private company must report monthly on the amount and types of waste collected (Article 26 Specification).

The Specification furthermore contains a penalty clause. In case of (partial) non-observance of the agreement by the private company, it forfeits to the municipality a fine of 450 euros that can be claimed directly without intervention of a court, for every day the private company fails to fulfil its obligations (Article 3 Specification). Furthermore, each party is entitled to dissolve the agreement in case the other party, for example, files a bankruptcy petition and in case a party fails to observe the agreement after a due notification (Article 3 Specification).

The private company must periodically consult with the municipality. Consultation at the level of directors takes place twice a year. Consultation on the execution of activities takes place four times a year. The agenda is set in advance at the moment of planning the consultation (Article 13 Specification). In practice, there is a monthly consultation on the execution of activities between the municipality and the private company. This consultation takes place between coordinators and planners of the private company and the supervisor of the municipality. The meetings are rather informal. The consultation at the level of directors takes place four times a year. This meeting is attended from the side of the municipality by the head of the department, the coordinator public area and the supervisor and from the side of the private company by the account manager and the outdoor coordinator of the private company. This meeting is more formal in nature and minutes are taken. This consultation is often about money and urgent problems. During this consultation negotiations take place regularly, making it more businesslike. The private company also advises the municipality on certain issues, especially when it concerns the organization of the waste collection infrastructure, but the company is not actually involved in municipal policymaking. The distance between its parties is small. The municipality has a fixed contact person within the private company. Also, the supervisor of the municipality is to a great extent involved in the execution of activities (8).

Duration The Specification has a duration of three years with the possibility of extending it twice with a year.

Dispute settlement Disputes are brought before the Dutch Arbitration Institute or the

proper court (Article 8 Specification). Hitherto, parties have never let disputes get this far, since they are of the opinion that there is no point in formal conflicts (10). It only causes problems that can be prevented by compromising.

Administrative support In Indigoford waste collection falls under the department of city maintenance of the cluster social policy and structuring. The director of the cluster is charged with the daily management of clusters. Management consists of the responsibility for the performance of the cluster and the departments under its responsibility. This involves realizing the quantities and qualities of service delivery and products laid down in the budget as well as having responsibility for the resources dedicated to reaching that end (Article 18 Organization Ordinance). Periodically, the director accounts for this by means of a management report. More specifically, there are an annual budget and annual plan on the performances to be delivered and the resources available to that end, to which the director has expressed a binding agreement. This manner of organizing means that the clusters and departments have some degree of autonomy. The municipal council mainly acts on complaints of residents. Residents have an interest in being able to dispose of their waste against a tariff that is as low as possible (9). The municipal council, therefore, is mainly involved in waste collection when the municipal waste charges have to be approved.

Within the department of city maintenance a number of municipal officials are involved in the provision of waste collection. One position consists partly of policy tasks and partly of supervising. In addition, one person is hired for one day a week to design policy and the coordinator of public spaces is also charged with waste collection for one third of his time (9). Particularly, the function in which policymaking and supervising is combined is of great importance. In this way, the municipality has a strong relationship with the execution of activities.

Incentives The incentive built in this governance structure is the process of tendering in which the lowest bidder is granted the job. In addition, the fact that the Specification has a relatively short duration incites the private company to perform well, in order to have a good starting position in the next tender. Furthermore, an element that functions as a stimulus is the fact that the supervision of the supervisor in the street keeps the dustmen from idling.

Ownership The ownership of means and material is mixed. The collection means, such as wheelie bins, are owned by the municipality, except for the glass and paper containers, which are rented. The processing of waste is contracted out together with other municipi-

palties in the region. Owning waste means less dependency on the waste collector and by contracting out the processing of waste together with other municipalities, Indigoford benefits from a large size. Personnel and collection vehicles are owned by the private company.

6.2.2.3 Discussion of municipalities contracting out to private firms

All in all, this analysis of municipalities that contract out to private firms shows that this mode of governance involves semi-high incentives, which are a consequence of the process of tendering as is the case in Indigoford, or as a result of determining tariffs, as is the case in Denimborough. In addition, the duration of the contract, which is relatively short, stimulates private companies to comply with the agreements. Next to these incentives, there are administrative controls. Since municipalities have a legal obligation to take care of the provision of household waste collection, they have to keep an eye on the manner in which it is provided, also in case of contracting out. Therefore, the municipalities employ a number of municipal officials to manage the contract and to make policy. Dispute settling takes place through arbitration or by courts. The degree of completeness of the contract is high. For example, municipalities lay down in the smallest details the way in which waste is to be collected. In addition, they achieve completeness by laying down rules which cover possible problems container-wise. This is seen best in the rules concerning cleaning time every day at 12h00 in Indigoford and at Fridays in Denimborough. These kind of agreements and requirements in the Specification or SLA help to prevent disputes and renegotiations between parties. This is also applied to enforcement procedures. Municipalities employ municipal officials to monitor and control the execution of the tasks laid down in the Specification or SLA.

6.2.3 Municipalities with a public company

In this section, we describe the municipalities with a public company, Carminecastle, Crimsonbridge and Scarletcity. In these municipalities, local authorities are shareholders of the company and have as principals a long-term contractual relationship with the public company as their agent. The basis of the governance structure is a shareholder relation between a group of municipalities and the public company (a multilateral agreement) together with a SLA between the individual local authorities and the public company (a bilateral agreement). Carminecastle and Scarletcity are both shareholder of the same public company but have separate contractual relationships with the public company as their agent.

Compared to governance structures with the shape of municipal services and con-

tracting out, public company governance structures involve a great deal of paperwork. We analyse the agreements, Charters of the public companies, the Organization Ordinance of the municipality and the data gained from interviews. Important elements to discuss are the way in which the contracts are made, the contents of the contract and their reinforcement. We discuss elements of contract law, to wit contract duration, degree of completeness, dispute settlement and enforcement procedures, the level of administrative support and the extent to which incentives are employed. In addition we pay attention to ownership of assets and the waste collection model.

6.2.3.1 Carminecastle

Carminecastle is a municipality in the eastern part of the Netherlands with a population of 80,000 inhabitants. Household waste collection is organized in a public company of which Carminecastle is one of the shareholding local communities. The waste collection model of Carminecastle is shown in 6.6. The public company has now existed for more than 10 years. The objective of this structure has been regional cooperation by means of an autonomization of municipal services. This objective had been under discussion for several years. The discussion already started in 1993. At the moment that municipalities finally decided to establish a public company, a commercial organization offered a significant amount of money to participate in the public company. The local authorities agreed and the commercial organization obtained a share of 35 percent, as well as the responsibility for the management of the public company. In spite of this development, the structure was not primarily meant as a first step towards privatization. Regional cooperation with the aim of enlarging the scale remained the principal objective. In exchange for reaching this objective, local authorities were even prepared to put up with higher costs caused by a different collective labour agreement and guarantee arrangements that had to be agreed upon in the process of autonomization.

In the period following the period of our research, local authorities have been working on repositioning the company since the first period of 10 years had expired and the commercial organization decided to leave the company. The municipality of Carminecastle was very content with this development because it had proved to be very problematic to have a commercial organization involved in the public company. Time and again the municipality had stumbled on complications related to the participation of a commercial organization with its own commercial interests and own objectives. In repositioning the company local authorities have looked for opportunities to make their relationship with the public company more transparent. Until then, municipalities had been working with a tariff for essential tasks. No one knew anymore how this had been composed. Neither was it clear what effects changes in the collection method and infrastructure would have

Dutch Local Governance Structures in Waste Collection

	Method of collection	Frequency / Density
Residual waste Low-rise residential areas High-rise residential areas Centre	wheelie bins containers	fortnightly
Organic waste Connection rate Low-rise residential areas High-rise residential areas Centre	75% wheelie bins - -	fortnightly
Paper Door-to-door collection Disposal facility	local associations maritime containers	monthly
Glass Door-to-door collection Disposal facility	- containers	1 on 3,375 inhabitants
Textiles Door-to-door collection Disposal facility	local associations containers	4 times annually 1 on 8,100 inhabitants
Hazardous waste Door-to-door collection Disposal facility	chemical waste collector chemical waste depot on civic amenity site	on call more than 40 hours weekly
Bulky waste Door-to-door collection Disposal facility	yes civic amenity site	on call more than 40 hours weekly

Table 6.6: **Waste collection model Carminecastle 2005** (SenterNovem Uitvoering Afvalbeheer/Cyclus, 2005)

for the tariff. In the new situation, municipalities chose a cost allocation model. The public company itself has started looking for opportunities to broaden and diversify its package of activities.

Contract law As observed in the introduction of this section, the basis of this governance structure consists of three agreements, the Shareholders Agreement and the SLA, and the Charter of the public company. In this paragraph, we go into the specifics of the SLA because this agreement forms the basis for the actual provision of the public service of household waste collection. The Charter and the Shareholders Agreement will be discussed in the paragraph on administrative support.

Degree of completeness The SLA consists of several regulations concerning the performance of the collection of waste. It contains a concise prescription of the collection

vehicles that are deployed to carry out the activities. These vehicles have to be clearly recognizable as vehicles of the public company (Article 2.10 SLA). Further agreements are laid down with regard to two types of tasks: tasks included in the reimbursement per household that is determined yearly and tasks the content and extent of which has to be determined separately. An example of a task of the last category is consultation on policy. The SLA stipulates that the municipality can request the public company against payment of consultation costs, to assist the municipality in investigating and determining the consequences of, for example, (new) statutory rules and changing working conditions (Article 3.1 SLA). Tasks of the first category are, for example, the collection of residual, organic and bulky waste. Agreements are, again for example, that the municipality commissions the public company through its own inspectors to collect bulky waste that is put beside containers at container sites by unknown persons. The size of these activities is estimated at 520 hours a year. The public company is obliged to execute the assignment within 24 hours on working days against a tariff set for additional costs (Article 3.2 SLA). Furthermore, the public company, if necessary, has to make a revision round every day, meaning that waste which has not been collected, still has to be collected. If this can be attributed to residents not offering their wheelie bin at the appropriate time and place or in the right way a revision round consists of a maximum of 10 wheelie bins a day (Article 3.2 SLA). The public company gives a yellow card if a resident is in breach of the rules for the first time. A red card is given if the offence is committed more than once (Article 3.2 SLA). Bulky waste has to be collected within 5 days after a resident's notice (Article 3.3 SLA). During the collection of organic waste, dustmen have to inspect whether the organic waste is contaminated (Article 3.2 SLA). Containers have to be cleaned two times a year. (Article 3.13 SLA). With regard to the civic amenity sites, the agreement only stipulates that the public company is responsible for staffing and the registration of types of waste, the separation of waste and the transport of the waste. It is agreed in general that the public company has to pursue a proper realization of municipal objectives and regulations concerning the environment (Article 2.2 SLA).

If one of the parties is of the opinion that owing to unforeseen circumstances the other party cannot reasonably expect unaltered fulfilment of contractual obligations, parties have to renegotiate the agreement taking into account reasonable reciprocal demands (Article 2.4 SLA). In addition, the public company itself has always shown to be prepared to undertake extra activities not laid down in the SLA without passing on the expenses to the municipality (14).

Enforcement procedures Parties can terminate the agreement unilaterally immediately in case of non-observance of its obligations by the other party. To that end, parties have

to declare the other party in default in writing (Article 5.2 SLA). If the public company has not fulfilled its obligations, the municipality is entitled to perform the necessary activities at the expense of the public company. If the municipality suffers damage as a consequence of negligent or incorrect execution of the tasks described in the agreement, the public company will compensate the municipality.

On a yearly basis, the public company has to submit an overview of tasks performed. A minimum requirement is a list of the amount and types of waste and the method of collection (Article 3.15 SLA). Moreover, a complaint registration is established (Article 3.15 SLA). Actual control on the execution of activities does not take place (14). Neither does the SLA contain any agreements on monitoring and control (14). The problem for the municipality, then, is how to monitor. A survey among the population showed that residents give the collection of waste a high mark. It scored highest of all municipal public services (14). The municipality interprets this as a signal that strict control is not necessary. The municipality has always had a favourable impression of the way in which the activities are executed. There is sufficient trust between parties. On the municipal side the view is taken that only in financial respect there is a lack of transparency and of opportunities for control.

Apart from these written agreements, regular consultation between parties takes place at the level of municipal officials and at the level of performers of the public company. They have frequent contact on the execution of activities. When most municipal functionaries were transferred to the public company, one colleague remained with the municipality. This had the advantage that the municipality has maintained in-house knowledge of the collection of household waste and, therefore, has remained able to be strict in monitoring and checking the development of prices (14). The distance between the municipal official and his former colleagues is small and the relationship is of a rather informal nature although it is becoming more formal. The distance between the municipality and the director of the public company is also small. The municipal functionary knows how to find his way to the director. As a consequence, problems are solved relatively easily and quickly. The public company is relatively flexible and is prepared to do extra activities in addition to what is agreed upon in the SLA. There is also a certain amount of distrust on both sides. The public company views itself as an autonomous entity, whereas the municipality treats the public company as its own (14).

Duration The municipalities have agreed to a duration of the Shareholders Agreement and the SLA of 10 years after the foundation of the public company. The specific agreements of the SLA are reviewed every year (14).

Dispute settlement Disputes are settled according to the Regulations of the Dutch Institute for Arbitration (Article 6.3 SLA). In the period of our research, no disputes have arisen.

Administrative support In the period of our research the municipality was organized in three departments. Waste collection falls under the department of city maintenance and development. The departments enjoy much autonomy vis-a-vis the municipal executive. In the period of our research two municipal officials were charged with the provision of waste collection, one full time, the other half time. After the period of our research, two municipal officials were employed full time. These municipal officials fulfil the tasks connected with both municipal roles of shareholder and of principal. The number of municipal officials is considered small in relation to the tasks they perform (14). Carminecastle chooses to have strict control, to invest in material itself and to make policy. In this way, the municipality keeps the initiative. The public company would like to see less municipal officials to acquire more freedom (16). However, the participating municipalities do not support this idea (14). As discussed before, almost all municipal officials were transferred to the public company when the municipal service was autonomized. Only one of them stayed with the municipality. This had the consequence that sufficient knowledge was kept available in-house. Consequently, Carminecastle has been a strong principal for the public company. Contacts between the municipality and the public company remained relatively informal for a long time. Municipal officials and employees of the public company knew each other well. The relationship has become less close over the years. The participation of the commercial organization in the public company made the municipality somewhat suspicious.

Carminecastle has a number of ways to manage the relationship with the public company. Above, we discussed the SLA; here we pay attention to the two Shareholders Agreements and the Charter of the public company. One Shareholders Agreement is concluded among the municipal authorities – the shareholders – themselves. The other Shareholders Agreement is concluded between the commercial organization on the one hand and the municipal authorities on the other. In the Charter of the public company the objective of the public company is laid down. Its objective is, on behalf and to the benefit of its shareholders and in the general interest, to be active in the field of the collection of household waste and cleaning, and other environmental tasks (Article 1 Charter). The public company attempts to reach this aim against the lowest possible social costs (Article 2 Charter). The public company does not pursue profit. This is prescribed in the Charter, as well as in the Shareholders Agreement among the municipalities.

The Charter lays down the following with regard to the powers of the municipal-

ity. The shareholders have the power to appoint, suspend and dismiss the director or members of the board of directors. In addition, the board of directors has to follow the directives and the framework decisions on the general policy of the general assembly of shareholders or the Board of Supervisors, when determining policy and its execution. The board of directors needs the consent of the general assembly of shareholders for its decisions relating to the determination of the fees and tariffs charged to the municipalities and other public bodies, policy concerning the processing of waste and the conclusion or alteration of the management contract with the board of directors. Apart from this, the Shareholders Agreement stipulates that municipalities pursue quality and efficiency improvements and the lowest possible costs for their residents that are compatible with a sound environmental policy. A municipality shall not terminate its shareholdership of the public company during the period of validity of the SLA between the municipality and the public company. The number of shares per municipality corresponds to the number of households (one share per 1000 households). When a municipality wishes to renounce, wholly or partly, the tasks agreed on in the SLA, the municipality must do anything in its power to limit any financial and personal consequences for the other municipalities and/or the public company.

Being a shareholder is not seen as decisive in the relationship. As a shareholder, the municipality does not have many individual possibilities to influence the public company's line of conduct. The fact that the municipality is shareholder together with other municipalities is important. Not only consultation between the municipality and the public company is necessary, but also among the municipalities. This is especially the case when changes in the waste collection infrastructure are made. To benefit from the larger scale, the municipalities and the public company have to strive for conformity. Therefore, the municipalities have to reach unanimity among themselves. This takes much time and leads to high costs.

Apart from the relationship with the public company, the municipal officials also have to take into account the political process. The relationship with politicians is very important when making decisions on aspects relating to the shareholdership of the municipality. A past example was the withdrawal of the commercial organization from the public company combined with the decision of the municipalities no longer to accept a commercial organization as shareholder. In addition, the municipal council in Carminecastle demands strict management of the contractual relationship with the public company and is sensitive to the consequences of policy changes for the municipal waste charge.

Incentives No actual incentives are embedded in this governance structure. The municipality has little influence on the costs of the collection of household waste. In the

course of the foundation of the public company parties agreed upon a tariff for essential tasks. This tariff was calculated per household including a long list of services. It proved to be very difficult to translate financially, new developments and policy changes to the tariff (14). In this way, the municipality has no means or mechanisms to stimulate or sanction the company (16). Besides, it is not clear what the effects are when the public company works more efficiently, because the assessment is difficult to make (14).

Ownership Carminecastle owns all waste collection means and the civic amenity site. The public company owns the collection vehicles and personnel. Carminecastle has chosen to invest in collection means out of its own waste budget. Basic provisions, such as the infrastructure, are guaranteed in this way and Carminecastle retains a high level of independence in its relationship with the public company (14). Carminecastle has chosen to remain in control. The opinion is that the public company is too unpredictable.

6.2.3.2 Crimsonbridge

Crimsonbridge is a municipality in the middle of the Netherlands. It has a population of 95,000 citizens. Crimsonbridge is a city characterized by a community approach in which the emphasis lies on letting residents participate in municipal dealings with issues concerning them. Waste collection is organized in a public company of which Crimsonbridge is one of two shareholders. The other shareholder is a neighbouring city of 135,000 inhabitants. The waste collection model is shown in Table 6.7. One aspect of the model to be noticed is the fact that city bins are used in the centre of the city. The public company already exists for over ten years. It comprises the autonomized former municipal services of the two municipalities in a proportion of 35:65. Until 2001, the public company's management was discharged by a commercial organization. This organization had a profit share of ten percent. Profit maximization, however, had never been an objective of the municipalities. So this arrangement led to problems. In 2001, the commercial organization withdrew from the public company, because it had decided no longer to focus on waste collection. In the same period, the municipalities were in the process of deciding on whether or not to sell all their shares to a commercial organization. This process caused the withdrawal of the commercial organization, after which the municipalities decided not to sell their shares. The public company was preserved. One of its objectives is cost minimization, another to achieve targets set by the municipal executives (13). In addition, the public company strives to be of more value to the participating municipalities than a private company could do in the sense that it also pursues social goals, for example by cooperating in employment creation programmes.

	Method of collection	Frequency / Density
Residual waste Low-rise residential areas High-rise residential areas Centre	wheelie bins containers citybins	fortnightly 2 times weekly
Organic waste Connection rate Low-rise residential areas High-rise residential areas Centre	73% wheelie bins - citybins	fortnightly 2 times weekly
Paper Door-to-door collection Disposal facility	yes maritime containers	fortnightly 1 on 8,914 inhabitants
Glass Door-to-door collection Disposal facility	yes containers	fortnightly 1 on 3,073 inhabitants
Textiles Door-to-door collection Disposal facility	yes containers	4 times annually 1 on 5,571 inhabitants
Hazardous waste Door-to-door collection Disposal facility	yes chemical waste depot on civic amenity site	op call more than 40 hours weekly
Bulky waste Door-to-door collection Disposal facility	yes civic amenity site	on call/free of charge more than 40 hours weekly

Table 6.7: **Waste collection model Crimsonbridge 2005** (SenterNovem Uitvoering Afvalbeheer/Cyclus, 2005)

Contract law The basis of this governance structure is formed by the Shareholders Agreement, the Charter, and the SLA. In this paragraph, we address the specificities of the SLA, because this agreement underlies the actual provision of the public service of household waste collection.

Degree of completeness In the SLA, the municipalities lay down which tasks are to be performed by the public company. The SLA contains a framework agreement which guarantees that each municipality will make use of the services of the public company for a period of ten years and a specific year agreement consisting of two parts; a part concerning the content of the service of waste collection and a financial part. The content of the financial part is to a large extent determined by the actual situation in the period of the process of negotiating and writing the SLA. Every year prices are indexed. Prices must conform to the market prices, but in fact they do not (12). To reach a better tariff calculation, parties are in the process of rewriting the SLA for periods of more than a year.

Most of the agreements are laid down in the current SLA. Some issues, however, are elaborated in additional plans that the public company had to write, to wit a collection plan, an acceptance plan and a maintenance plan concerning the maintenance and cleaning of containers (Article 3.9 SLA). The SLA specifies every service to be delivered, the conditions under which activities have to be deployed and requirements concerning the quality of the services delivered. One quality requirement with regard to the collection of residual waste and organic waste is that if individual containers continually flow over, the public company has to increase the collection frequency. When ten percent of the number of containers flows over continually, this is taken as proof that the containers are not emptied frequently enough (Article 2.1 SLA). Another quality requirement is that the kerbsides and the container sites should be clean after the wheelie bins and containers have been emptied. Spilled waste must be collected immediately (Article 2.1 SLA). Bulky waste must be collected within 5 days after a resident's notice (Article 2.2 SLA). Bulky waste that is not offered timely or correctly must be collected in the regular bulky waste round (Article 2.2 SLA). With regard to the civic amenity site, it is determined that the public company must provide clear information to the residents (Article 2.3 SLA). Personnel at the civic amenity site have to act customer-friendly and the civic amenity site must be immaculately groomed (Article 2.3 SLA). With regard to containers, the SLA stipulates that they have to be in good order and not smell unpleasantly (Article 2.7 SLA). The public company guarantees its employees' customer-friendly conduct (Article 2.8 SLA). Finally, there are general conditions with regard to personnel and material (Article 4.2 SLA).

The possibilities of adjustments of the activities of the public company is provided for in the SLA (Article 3.8 SLA). In case of policy changes requiring changes in the tasks of the public company, the latter has to cooperate (Article 3.8 SLA). In fact, the municipality faces a lack of flexibility from the side of the public company. The fact that the municipality is a shareholder does not engender an attitude of the public company towards the municipality that is different from that of a private company (12). Some policy changes were blocked off by the public company, such as the replacement of citybins by underground containers. Dissatisfaction of the municipality with the public company and realization of an increasing lack of knowledge on the side of the municipality, has led the municipality to increase its in-home knowledge to strengthen its position regarding the public company. The public company is aware of the suspicion and the reserved attitude of the municipality, but it considers its own attitude towards the municipality as very flexible, provided that expenses are covered by the municipality (13). The public company would like to become a natural partner of the municipality (13). In its view, this would mean that all activities that could be executed by the public company would actually be delegated to it. Hitherto it has, however, not come this far. This has to do with the persons actually holding relevant positions (13). The public company desires continuity, but this is not secured by the municipality. In return, the public company could set market prices and a high level of service delivery. Agreement between the parties cannot be achieved, however.

Enforcement procedures The SLA contains agreements on the reporting duties of the public company to the municipality and on the control exerted by the municipality. The public company has to report annually on its performance. Also, once every four weeks, the public company has to report on the total weight and types of waste collected (Article 3.6 SLA). As for the agreements on control by the municipality (Article 3.7 SLA), these are in practice not effected (12). Occasionally, there is a supervisor on the street, but he does not control activities systematically. In addition, there are inspection rounds by residents and municipal officials. These are, however, much broader than the collection of waste and are not used to control the public company (12). Many issues are not sufficiently clearly specified in the SLA. Often the question arises whether or not certain activities are included in the package of activities specified in the SLA. An example are activities dependent on the number of the citybins. These are not included in the SLA. In addition, the municipality did not pay enough attention to this. Now, parties disagree on whether the number of citybins has actually increased or not and what this means for the tariff (12). The SLA sets sanctions. If the municipality is of the opinion that the public company has failed to fulfil the conditions and quality requirements laid down in the SLA,

the public company gets a year's time to fulfil them as yet. If, after a year, the municipality still observes non-fulfilment, it is entitled to terminate partially the agreement or impose a fine (Article 3.7 SLA).

Parties have agreed upon periodical consultation on the execution and improvement of activities (Article 3.7 SLA). Additional consultation is, however, necessary (12,13). At the operational level, the supervisor of the municipality and the coordinators of the public company consult weekly. Tactical consultation takes place on a regular basis, i.e. fortnightly. This consultation is a discussion of progress and daily routine. It should take place only once a month, but in practice more frequent consultation is necessary. According to the public company, these meetings are too often about details (13). According to the municipality, this is a consequence of the fact that issues cannot be solved at lower levels (12). The municipality does not have sanctions. The public company has to solve problems within 12 months (Article 3.7 SLA), but many problems cannot wait that long. There is also strategic consultation between the director of the municipality and the director of the public company. The meetings take place on a regular basis. Apart from the more formal forms of consultation, there is informal contact between the public company and the municipality. If necessary, a phone call is made or an email is sent. At the operational level, consultations do not go well. Also at the tactical level, progress is slow. Consultations on all levels often stagnates. It seems that managers in the municipal organization do not sufficiently press on (12).

Duration The SLA has a duration of ten years, with attached specific agreements with durations of a year.

Dispute settlement Disputes are settled by an independent expert. When the municipality finds that the execution of activities does not conform to what is agreed upon in the SLA and the public company does not agree with that finding or the consequences the municipality attaches to this, parties may appoint an independent expert to control and assess the execution and quality of the activities (Article 3.7 SLA).

Administrative support The organization of Crimsonbridge is subdivided into sectors. Waste collection falls under the sector municipal works. Crimsonbridge employs an internal principal who is charged with the provision of waste collection half time and a project manager working full time on this. In addition, there is a supervisor on the street who has a broad package of tasks, of which waste collection is one. If necessary a project assistant or project manager are appointed. The municipality requests more support and initiative from the public company on policy making, but the public company is not able

to give this support (12).

Two Aldermen concern themselves with waste collection. One fulfils the role of shareholder, the other the role of principal. Consequently, the department of finance, as well as the department of municipal works is involved in the provision of waste collection. The emphasis is, however, with the department of municipal works. The underlying idea is that both roles are clearly different and therefore need to be separated. As a shareholder the municipality strives for an optimization of the dividend, while as a principal it emphasizes lower costs and a high level of service delivery. The ensuing requirements are often conflicting. The municipal executive has made arrangements to solve possible conflicts. Both Aldermen and departments can defend their own interests leading to a more balanced decision (12). In the first years of its existence, the municipality left the public company free. This led to a dramatic rise of costs (12). At the same time many changes took place in the municipality in filling in the position of principal. Nowadays, the municipality is stricter towards the public company. This strictness had as a consequence that the last SLA was signed in 2004, since the negotiations on the subsequent SLA's failed.

Crimsonbridge has various ways of managing the relationship with the public company. Firstly, it can act on the basis of the Shareholders Agreement and the Charter and secondly, it can act on the basis of the SLA. In the Shareholders Agreement municipalities declare their intention to jointly establish a public company and regulate how the autonomization of the two municipal services shall take place. In the Charter, the relationship between the shareholders and the management of the public company is laid down. In the Charter, the objective of the public company is laid down as well. We focus on the most important aspects of the objective (Article 2 Charter). The objective is, firstly, to perform activities concerning the collection and disposal of waste as well as to participate in financing or managing companies established to realize this objective, all within the framework of the environmental and waste policy of each of the participating municipalities. Secondly, the public company aims at the exploitation of material in the field of waste collection and relating activities in the broadest sense. The public company is allowed also to perform these kinds of activities for others, provided that the activities are of minor importance. Thirdly, the public company must meet the needs of general interest in the field of waste collection, exclusively in the interest of the municipalities that have appointed the public company as its waste collection company. Fourthly, the public company can unfold related activities within the framework of a full service approach with regard to waste collection.

The public company is established for an undeterminate period of time (Article 3 Charter). The management is assigned to one or more executives under the supervi-

sion of the Supervisory Board. The number of directors is determined by the general assembly of shareholders (Article 12 Charter). They are appointed by the shareholders (Article 12 Charter). An executive can at all times be suspended by the general assembly of shareholders (Article 12 Charter). The director has to follow the instructions given by the shareholders and the conditions concerning general policy. The director provides the general assembly of shareholders with all requested information. The public company has a Supervisory Board consisting of five natural persons (Article 16 Charter). A supervisor can at all times be suspended by the general assembly of shareholders (Article 16 Charter). Every share entitles one vote. A share that belongs to the public company or a subsidiary does not entitle a vote in the general assembly of shareholders (Article 24 Charter). All decisions are taken by absolute majority of votes unless stipulated otherwise in the Charter (Article 25 Charter). The profit is for the (free) disposal of the general assembly of shareholders. Any payment of profits occurs after determination of the annual account (Article 29 Charter).

It appears that the municipality and public company have different opinions on what it means to be a public company. The municipality views the public company as its own company and tries to interfere in the management to an extent that is unacceptable to the management of the public company (13). The municipality even tried to enforce cutbacks (13). This is however not possible. It is unclear what being a shareholder means. The municipality tries to gain an insight into the performance of the company by means of the benchmark and wants to take the public company to account on the basis of benchmarks. The public company however, is of the opinion that the municipality forgets that it receives dividends (13). This difference in views is exacerbated by the fact that the role of shareholder and principal are separated within the municipality. The principal fights for every euro and does not take into account the fact that dividend flows back to the municipality. The municipality is not the only shareholder. Therefore, it has not only to communicate with the public company when policy changes are at issue, but also with the other shareholder. This also requires consultation between the municipalities. In practice, the fact that both shareholders have different attitudes towards the public company is a complicating factor. This makes consultations between all parties even more difficult.

As discussed in the introduction of this section, Crimsonbridge attaches great value to its communication with its residents and their involvement in its decisions. The municipal executive, therefore, is very sensitive to what residents say or what their complaints are. It is very sensitive to signals coming from the residents. The organization of the community approach epitomizes this attitude. Every district has a team of residents with a budget of their own. In some cases this works very well. However, with regard to the

collection of waste it appears not to be the proper approach. Not everyone can participate in discussions about, for example, the placement of a container. Residents, however, do expect this because they have been informed in this way. They think, unrealistically, that they can influence all decisions.

Incentives There are no incentives attached to this governance structure. The tariffs have been fixed initially at the foundation of the public company and are indexed every year (Article 5.1 SLA). The municipality no longer has insight into the composition of the tariffs and during the term of the contract it has no means to change that. Efficiency improvements and new policies do not lead to changes in the tariff.

Ownership The municipality owns all collection means, wheelie bins and containers, except for the glass containers, which are owned by the public company. The idea is that the municipality has to retain ownership of collection means to make it relatively easy to change between waste collection companies. Collection vehicles and personnel are owned by the public company. The waste that has been collected is owned by the municipality.

6.2.3.3 Scarletcity

Scarletcity is one of the larger cities in the Netherlands. It has a population of about 150,000. More than 10 years ago, Scarletcity autonomized its municipal service together with a number of other municipalities in the region. Scarletcity organizes the production of waste collection in the form of a common public company. Shares of this company are divided on the basis of the number of households per participating municipality. Also, a commercial organization initially held 35 percent of the shares and carried out the management of the public company. During the period of our research, the commercial organization had withdrawn from the public company. Its shares had been sold to the remaining shareholders. With this withdrawal and the expiration of the period of ten years, the shareholders were faced with a process of repositioning. This process ended in 2006. The company pursues expansion, but stumbles on the boundaries of the public company (17). Apart from this, the public company is looking for opportunities to broaden its package of activities. The public company aims for added value compared to a private company by emphasizing its social role (19). Between the public company and the municipality there is a tight relationship. Parties do not start from zero as in the case of contracting out (17). Table 6.8 shows the waste collection model of Scarletcity.

6.2 Waste collection in eight Dutch municipalities

	Method of collection	Frequency / Density
Residual waste Low-rise residential areas High-rise residential areas Centre	wheelie bins containers	fortnightly
Organic waste Connection rate Low-rise residential areas High-rise residential areas Centre	78% wheelie bins containers -	fortnightly
Paper Door-to-door collection Disposal facility	local associations containers	less than 12 times annually 1 on 51,340 inhabitants
Glass Door-to-door collection Disposal facility	- containers	1 on 1,283 inhabitants
Textiles Door-to-door collection Disposal facility	local associations containers	4 times a year 1 on 3,850 inhabitants
Hazardous waste Door-to-door collection Disposal facility	chemical waste collector/stop system chemical waste depot on civic amenity site	4 times annually more than 40 hours weekly
Bulky waste Door-to-door collection Disposal facility	yes civic amenity site	max. 4 times annually/free of charge more than 40 hours weekly

Table 6.8: **Waste collection model Scarletcity 2005** (SenterNovem Uitvoering Afvalbeheer/Cyclus, 2005)

Contract law The bases of this governance structure are the Shareholders Agreement, the Charter of the public company and the SLA. In this paragraph, we address the specifics of the SLA because it forms the point of departure of the actual provision of the public service of household waste collection.

Degree of completeness The SLA determines that the public company shall engage into policy advice in the following manner: the public company has to prepare and develop the entire waste policy of the municipality on operational and tactical levels and, as far as the tactical level is concerned, to present it to the municipality for discussion. In addition, the public company must execute operational policy with regard to all tasks and activities mentioned in the SLA, which involves writing proposals and reports, giving advice concerning waste collection and keeping in regular contact with the municipality (Article 3.1 SLA). The SLA contains a concise prescription of the collection vehicles that are to be deployed to execute the activities. These vehicles have to be clearly recognizable as vehicles of the public company by a particular brand and have to fulfil the legal requirements (Article 2.10 and 2.11 SLA). During the collection of organic waste, dustmen must inspect the wheelie bins (Article 3.2 SLA). Bulky waste must be collected within 5 days after a resident's notification (Article 3.3 SLA). The public company has to make a revision round daily with regard to the collection of residual and organic waste. When residents are to blame for not emptying the wheelie bin, a revision round per day consists of a maximum of two wheelie bins and per household a maximum of two wheelie bins a year (Article 3.2 SLA). If waste is not offered correctly by residents, a yellow card is given, followed by red cards for recidivists (Article 3.2 and 3.2 SLA). With regard to emptying containers, parties have agreed on emptying these once a week and if necessary twice a week. Point of departure of the frequency of collection is that every household using the container has at its disposal a capacity of 135 liter. If an annual calculation of all collections of containers shows that the available capacity has been exceeded by 5 percent, the additional collections are charged. The public company has to collect binbags that have been put alongside the container to a maximum of 10 percent of the content of the container (Article 3.2 SLA). With regard to the civic amenity site, the public company takes care of staffing the civic amenity site, sees to it that waste is separated and registers the different types of waste (Article 3.5 SLA). The public company has to issue fixed rules of conduct to its employees, after consultation with the municipality, on the manner in which they have to deal with residents and to execute municipal regulations concerning the disposal of waste (Article 3.5 SLA).

The public company has to optimize the number of containers. This has to be achieved by optimizing the placement of containers in such a manner that the number of house-

holds using a container is between 11 and 15 and is thus geared to the collection frequency (Article 3.2 SLA). The material needed for executing maintenance and repair of wheelie bins is charged separately by the municipality (Article 3.4 SLA). The public company has to comply with the municipal objectives and regulations concerning the environment (Article 2.2 SLA).

Regarding adjustments to the agreement, the SLA contains the following rules. If in the view of one of the parties to the contract, administrative and/or statutory decisions or new developments in the field of waste collection occur which are of the sort that the other party cannot reasonably expect a continued fulfilment of the requirements of the SLA, parties have to negotiate adjustments of the current conditions in good faith (Article 2.4 SLA). Furthermore, parties have to assess annually the contents and functioning of the SLA. Adjustments to the contract have to be put in writing and signed by the parties (Article 6.1 SLA). The public company has shown itself willing to carry out extra activities that are not laid down in the SLA if necessary. It is quite flexible, but charges the expenses to the municipality (17).

Enforcement The public company must report monthly on the amount of collected specific types of waste and the number of cases of illegally dumped waste reported (Article 3.11 SLA). Quarterly it reports on the settlement of complaints of residents, the registration of yellow and red cards and the number of visitors to the civic amenity site (Article 3.11 SLA). The municipality is to some extent able to monitor the activities of the public company on the basis of these reports. The SLA does, however, not contain any agreements on control of the quality of activities. In practice the municipality does not monitor the public company during the execution of activities. As a consequence, the municipality is unable to monitor to what extent the public company, for example, collects illegally dumped waste. The public company is obligated to collect binbags that have been put alongside containers to a maximum of 10 percent of the content of the container (Article 3.5 SLA). If the municipality does not control the actual activities of the public company, it is not able to assess whether the public company has complied with its obligation (17). Based on this experience, the municipality is looking for new instruments to control the public company. Supervision remains, however, difficult (17).

Apart from these arrangements, the municipality and the public company frequently consult on activities of the public company. Especially the relationship between the account manager of the municipality and the executive level of the public company is informal. Although the distance between the public company and the municipality has increased over the years, it is still relatively small. The public company also invests in keeping in close touch with the municipality (19) and is flexible where needed. The

relationship is also characterized by tough negotiations on tariffs owing to the fact that the composition of the tariffs is rather nontransparent(17). In particular in these negotiations polarization is around the corner with the municipality and the public company diametrically opposed to each other. Although the relationship is informal, the municipality is aware of the fact that it must always be alert (17). Tariff negotiations regularly cause difficulties.

Duration The public company has been established for a duration of ten years, after which parties evaluate it. The SLA is reviewed every year.

Dispute settlement All disputes, which could arise as a result of the Shareholders Agreement or further agreements are settled in conformity to the Regulation of the Dutch Arbitrage Institute (Article 5.2 and 6.3 SLA).

Administrative support Waste collection in Scarletcity is organized within the department of city development and maintenance. The organization model of the municipality seeks to warrant independency of the departments on the one hand and unity and coherence on the other hand. In this model a Concern Management Team translates political goals into operational terms and focuses on the interests of the concern. The municipal secretary is the link between municipal executive and municipal organization.

As regards the municipal officials, originally two officials were charged with waste collection on a full time basis in the department of city development and maintenance. In the period of our research, the two officials were not working on this full time anymore. One of the officials was account manager and spent half of his time on policymaking. The other municipal official was concerned with policymaking only. Besides this, one municipal official working with the Concern Management Team was responsible for the function of shareholder of the municipality. In Scarletcity the roles of shareholder and principal are separated. This is troublesome for the public company, because it has to consult with different municipal officials with different tasks and opinions. As yet, the municipality considers it desirable to separate these roles, because there are distinct interests attached to them. Being a shareholder means having an interest in the continuity of the company, while being a principal involves having an interest in good tariffs and a high level of service delivery.

In the governance structure of the public company, there is no direct responsibility of the municipal council. The distance between the municipal council and the public company is larger compared to that in the mode of the municipal service. However, waste is an ever returning issue in consultations with the municipal executive. At least once

or twice a month, municipal officials consult with one of the Aldermen. Of the triangle of service delivery, environment and costs, especially service delivery to the public is a sensitive issue.

Scarletcity has a restricted number of possibilities to manage the relationship with the public company (17). Firstly, it can use the Shareholders Agreement and the Charter and secondly, the SLA. In the Shareholders Agreement the responsibilities of the municipality as a shareholder are laid down. The main idea is that being a shareholder guarantees transparency. As shareholders municipalities are exactly informed about what happens within the public company (18). The Shareholders Agreement and the Charter contain rules concerning the relationship between the public company and the municipality. Actually, there are two agreements. One Shareholders Agreement is agreed upon among the municipal authorities, the shareholders. The other Shareholders Agreement is agreed upon between the commercial organization on the one hand and the shareholders on the other. In the Charter of the public company the objective of the public company is formulated. The public company has the objective, on behalf of and to the benefit of its shareholders and the general interest, to be active in the field of municipal tasks, such as the collection of household waste and cleaning (Article 1 Charter). The public company attempts to reach this aim against the lowest possible social costs (Article 2 Charter) and has no profit motive. This is stipulated in the Charter as well as the Shareholders Agreement.

Furthermore, the Charter lays down the following elements with regard to the powers of the municipality. The shareholders have the power to appoint, suspend and dismiss the director and other members of the board of directors. In addition, the board of directors has to follow the directives and the limits set by the general policy of the general assembly of shareholders and the Board of Supervisors, when executing its tasks. The board of directors needs the consent of the general assembly of shareholders for its decisions relating to the determination of the fees and tariffs charged to the municipalities and other public bodies, the policy concerning processing waste and entering into or changing the management contract with the board of directors. Besides, the Shareholders Agreement stipulates that, with expansion and autonomization, municipalities pursue a quality and efficiency improvement and thereby low costs for their residents. A municipality cannot terminate its shareholdership of the public company as long as the SLA between the municipality and the public company is valid. The number of shares corresponds to the number of households which amounts to one share per 1000 households. If one of the municipalities wants to terminate, wholly or partly, the tasks agreed upon in the SLA, the municipality must do anything in its power to limit any financial and personal consequences for the other municipalities and/or the public company. This

is to be done, for example, by including redundant personnel and material in contracting out these tasks to another waste collection company.

In case of policy changes all shareholders have to be involved. Intensive coordination with the other municipalities is necessary. Although the relationship is partly a bilateral relationship between the public company and the municipality, it is also partly a multi-lateral relationship. The public company favours the adoption of one single collection model and infrastructure for all municipalities. This, however, requires much consultation. All in all, the chosen governance structure costs a great deal of time.

Incentives Both parties pursue a good relationship. Especially the public company is of the opinion that this will eventually lead to a translation in euros. However, the public company sits in an easy chair (17). The municipality is not able to introduce efficiency measures or cut backs unilaterally. Municipalities therefore have no control over the costs of the collection of waste. In the period of our research the parties worked with a tariff for essential tasks. This is important in relation to the solvability of the public company. In this respect, the public company has to be assured of a certain amount of money or a certain amount of tasks. Therefore, the municipalities are not able to switch to another waste collection company any time they like. A compensation arrangement exists. In the new situation this is even more important because of the indefinite duration of the Shareholders Agreement. All in all, there are no mechanisms to stimulate or sanction the public company (19). In some cases parties are able to arrange some points informally (17), but there are no real incentives incorporated in this structure. In practice, efficiency measures or other policy changes do not affect the tariff (17). Parties have negotiated on this, but this has not led to a reduction in costs (17).

Ownership In Scarletcity the ownership of material, personnel and collection means is mixed. Scarletcity only owns wheelie bins. The containers, the civic amenity site, the collection vehicles and personnel are owned by the public company. The municipality rents the underground container of the public company. This has to do with the maintenance of the containers. In this way, it is clear who is responsible. No discussion can arise on who is charged with repair in case of damage.

6.2.3.4 Discussion of municipalities with a public company

Summing up, in municipalities providing waste collection in a public company, local authorities are shareholders of the company and have, as principals, a long-term contractual relationship with the public company as their agent. These governance structures do

not comprise any incentives. The lack of incentives is a consequence of the fact the public company's shareholders are bound to award the task of household waste collection to the company. There is no competition. Furthermore, in the cases of Scarletcity and Crimsonbridge, with the autonomization of the municipal service, all knowledge available in the municipal apparatus concerning household waste collection was lost when all specialized employees were transferred to the public company. Consequently, these municipalities were no longer equipped to conduct negotiations in a professional way. In the setting-up phase of the public company, municipalities were too weak while during the contract period they were unable to compensate for the disadvantages caused by their initial weakness. Hierarchical relationships are deliberately cut through by the autonomization of the service. The only administrative controls that exist are commitments in the Shareholders Agreements and the SLA. As can be seen in the cases of especially Scarletcity and Crimsonbridge, these commitments are not sufficient to compensate the lack of incentives. The duration of the contracts is undeterminate or for a period of 10 years. Settling disputes takes place through arbitration. Enforcement instruments are stipulated in the contract. They are not always implemented, however. Furthermore, not all municipalities have instruments to monitor the execution of tasks (an example is provided by Carminecastle). The degree of completeness of the contract, especially that of the SLA, is not high. Municipalities have defined the service level in vague terms. The prices are determined on the basis of a tariff of essential tasks. Many tasks have to be specified during the time of duration of the SLA. This is even true with regard to their prices.

6.3 Outlook

In this chapter we discussed the mechanisms, procedures and social practices within the governance structures of eight Dutch municipalities with regard to the provision of household waste collection. For each municipality we discussed the working rules by which these mechanisms and procedures are established. Furthermore, we described the social practices. The data provided in this chapter form the basis of the analysis of efficiency in terms of transaction costs of the governance structures in relation to the characteristics of the public sector transaction of the provision of household waste collection in the next chapter. It is interesting to note here that the degree of how detailed the descriptions of the different governance structures are, is very divergent. The municipalities with a municipal service have put very little in writing. Here, we mainly explored 'law in action' which entails that we largely rely on the data gathered during the interviews. This is different for the other governance structures. In case of contracting out

and public companies, municipalities (have to) put down in writing much more, resulting in an emphasis on explorations of 'law in books'. Therefore, the descriptions of these governance structures are much longer and there is less emphasis on the interviews. Another striking element is the fact that although we originally expected the collection of household waste to be very homogeneous in municipalities with the same degree of urbanization, differences do exist in the waste collection models of the different municipalities. The homogeneity is large with respect to the collection of residual and organic waste, but with regard to the collection of other types of waste, the municipalities differ significantly. This has to be taken into account in the next chapter. Finally, we observe that, within the categories of governance structures distinguished in this study, the similarities are quite large. Working rules and social practices are comparable within these categories. This will be of importance in generalizing our results.

Chapter 7

Impact of Alignment and Misalignment

THIS CHAPTER BEARS WITNESS of three significant confrontations. It presents (1) a confrontation between the transaction and the governance structures eight municipalities in the Netherlands have chosen regarding waste collection, (2) a confrontation of the results of our empirical research with the theory discussed in previous chapters and (3) a confrontation of the outcome thereof with related empirical research conducted by others. The main objective of this chapter is to provide an interpretation of the results of the empirical research in terms of the transaction cost economic theory expounded. More specifically, we aim at answering the fourth research question *Does alignment between certain characteristics of public transactions and governance structures matter in terms of efficiency and performance?* We start by characterizing the typical transaction involved in municipal household waste collection on the basis of the attributes distinguished in Chapter 4. Then, we describe how the local governance structures used in practice can be characterized. This makes it possible to determine when, according to the theory, an alignment between transaction and governance structure exists. The subsequent two sections are dedicated to an analysis of whether or not this alignment actually leads to less transaction costs and a higher performance. The last section will be devoted to a survey of related empirical work by others on the provision of household waste collection and a comparison with our findings in that context.

7.1 Attributes of waste collection

We start by confronting the transaction of household waste collection with the governance structures of eight municipalities. Therefore, in this section, we consider the attributes of the transaction of household waste collection and, in the next section, we discuss the attributes of the governance structures. This confrontation ends with a prediction on alignment between the two in Section 7.3.

In the pertinent literature, waste collection is often characterized as a relatively simple public service with a moderate level of asset specificity. Domberger and Jensen (1997) maintain that sunk costs of entering the tendering process are likely to be low while asymmetries in information between governments and (possible) contracting partners are unlikely to be large. Moreover, it is their opinion, that with regard to waste collection it is possible to devise contracts in which expected outputs are specified in a measurable way, while compliance can be assessed rather straightforwardly (Domberger and Meadowcroft, 1986). Brown and Potoski (2003c) also characterize waste collection as a task with a medium level of asset specificity and a high level of service measurability. They give this characteristic on the basis of a survey in which American city managers and mayors were asked to specify defining properties of the service of household waste collection. These characterizations often lack an in-depth analysis of the attributes of the transaction of household waste collection. In addition, researchers often use a survey to assess the measures of the different service characteristics, because it is difficult to assemble other useful measures of service characteristics (Levin and Tadelis, 2005). We follow this to some extent by asking respondents to rank the waste collection along the attributes distinguished in Chapter 4 and operationalized in Chapter 5. However, we have used the interviews of our case study, instead of a survey, as an opportunity to ask respondents to rank waste collection. In this way, we were able to go more in-depth into the ranking of waste collection. This section provides an analysis of the different attributes of waste collection, to wit asset specificity and uncertainty. We already mentioned in Section 5.3.1 that the frequency of the transaction with regard to the provision of household waste collection is always high. If frequency is invariably high the two other attributes are decisive.

7.1.1 Asset specificity

With regard to asset specificity, we distinguish between investments in physical objects and in people. Investments in physical objects are, for example, investments in collection vehicles, wheelie bins and underground containers. Recently, the waste collection infrastructure has become more and more capital intensive and specific. Especially, vehicles with side load systems and underground containers are specific investments.

The specificity of investments depends on the method of collection. The collection of wheelie bins is very specific, because the equipment on the collection vehicles is highly specialized. Vehicles that are used in this case are back loaders and side loaders, which are not fit to be used for other purposes. Wheelie bins are likewise specific in that they cannot be used for other purposes than collecting waste, but the investments are not high and almost all municipalities use these collection means. It has, therefore, no

consequence for the possibility to switch to a different waste collection company. This is not the case with regard to dual bins in which residual and organic waste can be collected simultaneously, for only a few municipalities use this method. Consequently, the assets in questions are difficult to deploy alternatively. Likewise, investments in the vehicles used to collect dual bins are very specific. The vehicles cannot be used for the collection of other types of waste than residual and organic waste. The equipment on these vehicles is even more specific than that of back and side loaders, which leads to high dependency. Underground collection takes place by means of underground containers and vehicles with a hoisting system. The vehicles can be deployed more broadly for the benefit of other municipal tasks, such as the prevention of ice and snow formation and clearance of them from the roads, the maintenance of green spaces and the emptying of civic amenity sites. These investments are, therefore, less specific. In practice, they are seldom used for other purposes. On the contrary, investments in underground containers are rather capital intensive and specific. Other physical commodities that are part of the waste collection infrastructure are chips for container management, read-out equipment and computers. Municipalities use different systems, which involves that these investments are also specific. Investments in buildings, car parks and civic amenity sites are not highly specialized. Buildings and car parks can be used for other purposes and civic amenity sites also permit firms to dispose of their waste.

The requirement that every municipality has to collect household waste does not entail that specific investments can be deployed alternatively in different municipalities. This is due to the fact that municipalities have different collection infrastructures. As has been shown in Chapter 6, collection methods and frequencies of collection vary. Municipalities and waste collection companies aim at making the collection methods and material more multifunctional. In this way, collection material can be flexibly deployed. To date, however, there is still a great deal of variation, although collectors urge municipalities to pursue more uniformity. Furthermore, collection infrastructure becomes more diversified, because the separation of waste is carried through to great lengths. It is also important to take into account the investments in people that have to be made. Waste collection is a specific job, but the investments are not high, because employees do not need to learn special skills (13)¹. Besides, as a consequence of mechanization, less employees than in earlier times are necessary to collect waste. In case of back loaders three employees are necessary for collecting wheelie bins, while in case of mechanized systems, only one employee, a driver, is necessary. A driver has to be more qualified than employees walking behind the vehicle, but is also more easily deployable in alternative ways. In addition, many organizations that provide waste collection services, also per-

1. Numbers refer to quotes by respondents listed anonymously in Appendix A.

form winter road maintenance. Employees have to be available to perform these tasks. Besides these more concrete aspects, respondents observe that employees of waste collection companies are usually not all-round workers. Furthermore, they know only their districts and are very attached to their vehicle. Therefore, moving employees internally is difficult and even not always possible. This is also due to a more formal aspect. Employees are legally prohibited to conduct this heavy work for too long. The *P90 norm* determines the amount of waste an employee is allowed to collect manually per hour on the basis of an eight hourly working day². Some respondents underline the fact that knowledge of employees is site-specific, as they have a profound knowledge of the problems in particular districts and of the behaviour of their inhabitants. In this sense, a part of their knowledge is of learning by doing, especially in large municipalities with large-city problems. Also, issues concerning communication and enforcement demand specific skills (4). Furthermore, the work is site specific because employees often work in their place of residence and are not able to move to another side of the country when a collector is not awarded the tender. Employees cannot be transferred as easily as, for example, collection vehicles. With regard to employees, collectors have to apply for dismissal permits. This often costs a few monthly salaries (7). Therefore, collectors try to prevent too many fluctuations in the number of employees.

In Chapter 5, we distinguished between three categories of asset specificity, namely nonspecific, mixed specific and idiosyncratic investments. The overall conclusion on the basis of the above analysis is that household waste collection is mixed asset specific. Most investments in physical objects are only suitable for the collection of household waste. Most physical commodities can, however, be deployed alternatively in different municipalities. Exceptions are some vehicles and wheelie bins that are very specific. Furthermore, relatively large municipalities also cause problems in this respect. Besides, investments in collection vehicles and underground containers are high. The depreciation period of, for example, waste collection vehicles is eight years and therefore, waste collection companies have to be assured of the exclusive right of collecting waste in a particular municipality for a relatively long term. In addition, every municipality has its own household waste collection infrastructure, requiring ever different methods of collection with regard to different types of waste. Investments in people are not very specific, although it has to be noted that employees have specific knowledge of the districts and municipalities they work in, which can only be obtained by learning-by-doing. This all leads to the conclusion that the collection of household waste is not idiosyncratic, while waste collection clearly demands some measure of specific investments. We, therefore,

2. With an average population, 90% of the people should be able to perform the tasks without harmful consequences. The maximum amounts (in weight and number) are determined on the basis of age and type of waste.

qualify the asset specificity of waste collection as mixed. This is in agreement with the literature discussed in the introduction of this section.

7.1.2 Uncertainty

In ranking uncertainty, we distinguish between behavioural and environmental uncertainty. In Chapter 4 we defined behavioural uncertainty in terms of service measurability and of the hazard of probity. The hazard of probity is not a primary concern at the local government level. Particularly, the provision of household waste collection is not a sovereign transaction and it is precisely for this reason that we do not have to consider probity. We, therefore, restrict our discussion of behavioural uncertainty to service measurability. Environmental uncertainty will be discussed subsequently. It is related to the political sensitivity of the transaction and the political and technological changes that it is subject to.

7.1.2.1 Behavioural uncertainty

Waste collection is a measurable service. To collect waste, men and a vehicle are necessary. The fulfilment of production norms is easily assessable. They can be assessed per vehicle, per container, per household, per kilo, etc. In that sense, performance is easy to measure. This is also the case with environmental performances. The level of separation of waste can be determined quite straightforwardly. Municipalities are obliged to keep record of their waste management balance. Every type and amount of waste that is collected is reported.

Other performance indicators are more difficult to define and measure. Firstly, the quality of the service delivered by agents depends on many aspects. Such as frequency of service delivery, service package, satisfaction of residents and street scene. The first two elements are easy to prescribe in a contract. Parties to a contract can be precise in when and how often particular types of waste should be collected. Furthermore, it is possible to be precise in determining how specific types of waste are to be collected. Satisfaction of residents is already more difficult to determine. One way to do this is to conduct a survey on customer satisfaction. Another instrument is the establishment of a complaints registration system. The problem here is, however, that not all reactions are complaints. Some are just ordinary questions or requests for information. Besides that, the question is whether or not complaints are justified. And what number of complaints must be judged too high? It is clear that parties have to deal with perceptions of residents and not with observable facts. The last element, the street scene, is the most difficult element to define and control. Regarding this issue, it is important to agree on how wheelie bins should be

collected, how they should be put in place and how clean the situation should be at the kerbsides where wheelie bins are emptied. If parties to a contract are able to describe these aspects, the second problem is how to monitor them. It is not possible to measure them in the same way as in ordinary production firms, because the work takes place in the public domain (14). This means that parties to the contract must depend on the behaviour of a third party, namely, residents of a municipality. If parties want to measure or monitor performance, measurement has to take place at the right moments, because residents themselves can offer waste in the wrong way or other people can illegally dump waste. Consequently, they can influence the measurement of the quality of the working area. The question then is how to measure the quality delivered by the waste collection organization in isolation. Methods are to make random checks during the execution of collecting waste, to have supervisors on the street and/or to have them drive behind dustcarts. Clearly, it is very important to agree on what the requirements are and how monitoring takes place in advance (6). Nevertheless, it remains difficult to measure on the basis of objective grounds.

Summarizing, waste collection itself is well measurable in terms of production norms and environmental performance. This is not the case when the quality of service delivery is concerned, an issue that is important to local authorities, because waste collection is a visible public service. The most important problems are the definition and measurement of quality requirements. Intervening contracting difficulties are the behaviour of residents and monitoring of quality. Based on these considerations, the measurability of waste collection can be rated as highly difficult. In this, the rating deviates from that of Brown and Potoski with their rating of waste collection as highly measurable.

7.1.2.2 Environmental uncertainty

Environmental uncertainty is related to the political sensitivity of the transaction and the political and technological changes to which it is subjected. With regard to political sensitivity of the transaction, respondents observe that as long as waste of residents is collected on time, waste collection is not a controversial issue. In general, it does not have the interest of the population. However, as soon as irregularities or disruptions of service delivery occur, the general interest grows immediately and the number of complaints increases considerably. When one container is not emptied, there will surely be a complaint. With the collection of, for example, 40,000 wheelie bins per day, much can go wrong (17). All residents have opinions about this and first-hand knowledge, because all have and produce waste. Furthermore, waste collection is a visible public service in the sense that the tasks are carried out in the streets, in the public domain. Residents can see what tasks are executed and how they are fulfilled. The way in which

these tasks are performed determines to a large extent the image of local authorities (2). Dustmen, therefore, have to take care that they do not attract too much attention by performing their tasks incorrectly (13).

Furthermore, the height of the municipal waste charge is an important and controversial issue. When money is concerned, the municipal councils are on the alert. This is also the case when authorities propose a stricter enforcement of the rules. This is often a consequence of the fact that a private organization tends to apply the rules more strictly, than a municipal service. The waste collector is called to account for this, while local authorities have made these decisions (9). Besides, local authorities desire to keep their residents content, which may conflict with what is contracted with the waste collector. Residents are quick to turn to local authorities by writing letters with complaints or requests. Local authorities are regularly willing to meet these wishes, but have to consider the consequences for the agreements made with the waste collector.

The second element of environmental uncertainty concerns the developments in the institutional environment. At the national level many types of decisions with regard to the collection of organic waste, paper and glass, and with regard to the level of separate collection of waste, are made. Furthermore, great demands are placed on working conditions. They are in continual process of becoming even more stringent. This has consequences for the performance of waste collection tasks. As mentioned in Section 7.1.1, in the field of waste collection the *P90 norm* determines that with an average population, 90% of the workers should be able to perform their tasks without harmful consequences for themselves. This norm will become even more stringent, in that it will change to a *P100 norm* which means that 100% of the people should be able to perform the tasks without harmful consequences. In addition, technological changes such as the mechanization of the collection of waste have their influence on agreements made between municipalities and the waste collectors.

The conclusion regarding the political sensitivity of waste collection is that in normal circumstances it is not politically sensitive. The normal course of events relating to the collection of waste is not politically loaded. However, disruptions of the public service of household waste collection are extremely politically sensitive. The current threat of such disruptions preoccupies local authorities and the municipal council. Furthermore, the collection of waste has an important symbolic function because it is a visible public service. In that sense it is moderately politically sensitive. In combination with the political developments and technological changes waste collection goes through, the environmental uncertainty can be characterized as moderately uncertain.

7.1.3 Conclusion

The analysis of the attributes of asset specificity and uncertainty of the transaction of the provision of household waste collection, makes a complete characterization of that transaction possible. In Chapter 5 we already determined the frequency of the provision of household waste collection as high, since the provision of this is needed recurrently. On the basis of the analysis above, we can further characterize the transaction of the provision of waste collection as mixed asset specific, because to some extent specific investments are needed to provide the service of waste collection. In addition, the transaction is difficult to measure as far as the quality of service delivery is concerned, which leads to a high level of behavioural uncertainty. The level of environmental uncertainty is moderate as a consequence of a moderate level of political sensitivity and a moderate level of policy and technological changes. All in all, this means a moderate to high level of uncertainty.

7.2 Attributes of local governance structures

Following the characterization of the transaction concerning the provision of household waste collection, we must characterize the Dutch local governance structures used in practice. In Chapter 4 we described a set of attributes characterizing local governance structures. Furthermore, we divided these governance structures in three groups. These groups we termed ‘contracting out’, ‘external autonomization’ and ‘municipal service’. In Chapter 6 we described the governance structures eight municipalities in the Netherlands have chosen to organize the collection of household waste. In this sample of eight municipalities the three groups are represented, with the proviso that only one form of external autonomization is represented, to wit the ‘public company’. In the preceding chapter we have seen that there are slight differences within these three categories of governance structures, but compared to the differences between the categories they are not pertinent. Table 7.1 represents the way in which the three governance structures can be characterized on the basis of the characteristics defined in Section 4.2.2.

At the one extreme, **municipal services**, such as in Limedale, Myrtlefield and Olivetown, can be characterized in terms of low incentive intensity and high administrative support. In Limedale, the discussion on core tasks is clearly an incentive to the municipal service to work more efficiently. However, this discussion is incidental and cannot be conceived as part of the incentive structure of the municipal service itself. Apart from this, other incentives have not been observed. As to administrative support, we see that within the municipal service the hierarchical relationships serve as means of adaptation.

	Contracting out	Public company	Municipal service
Instruments			
Incentives	+	0	0
Administrative support	+	+	++
Performance attributes			
Adaptive autonomy	+	0	0
Adaptive integrity	+	+	++
Contract law			
Duration	0	+	++
Enforcement	++	+	0
Dispute settlement	+	+	0
Degree of completeness	++	+	0

Table 7.1: **Attributes of local governance structures** (where ++ denotes strong, + denotes semi-strong and 0 denotes weak)

This works both bottom-up and top-down. Adjustments are made smoothly because the different levels in the municipal organization communicate regularly and are in close touch with each other. Often, they are located in the same building. The elements under the heading ‘contract law’ are of less importance where a municipal service is concerned. The lifetime (duration) of a municipal service is in principle indefinite. Dispute settling and enforcement are carried through within the hierarchy, which means that they are part of the administrative support. Regarding degree of completeness, we may note that this is very low. Very few issues are put down on paper and agreed on in advance. We observe that this characterization of the municipal service corresponds to a high degree with our theoretical characterization in Chapter 4.

At the other extreme, **contracting out** to private companies involves a semi-high level of incentive intensity and semi-strong administrative support. Semi-high incentives are a consequence of the process of tendering as is the case in Indigoford, or as a result of determining tariffs, as is the case in Denimborough. In addition, the duration of the contract, which is relatively short, stimulates private companies to comply with the agreements. Next to these incentives, there is administrative support. Since municipalities have a legal obligation to take care of the provision of household waste collection, they have to keep an eye on the manner in which it is provided, also in case of contracting out. Therefore, municipalities which contract out waste collection employ a number of municipal officials to manage the contract and to make policy. This means that there is some adaptive autonomy, especially in the tendering stage, but during the contract

period adaptive integrity is of great importance. Adaptation is reached in meetings and negotiations between municipal officials on one side, and account managers and operational managers of the private company on the other side. Regarding contract law, the duration of the contract is relatively short. It varies from 3 to 9 years, including extensions to the contract (7). Furthermore, most of the time, settling disputes takes place through arbitration or by courts. The degree of completeness of the contract is high. For example, municipalities lay down in the smallest detail the way in which waste is to be collected. In addition, they achieve completeness by laying down rules which cover whole categories of possible problems. This is seen best in the rules concerning clean time every day at 12h00 in Indigoford and at Fridays in Denimborough. These kind of agreements and requirements in the Specification or SLA help to prevent disputes and renegotiations between parties. This is also applied to enforcement procedures. Municipalities employ municipal officials to monitor and control the execution of the tasks laid down in the Specification or SLA.

Public companies, located in between these two extremes, do not comprise any incentives, while at the same time they exhibit semi-strong administrative support. Hierarchical relationships are deliberately cut through by the autonomization of the service. The only administrative support that exists is commitments in the Shareholders Agreements and the SLA. As can be seen in the cases of especially Scarletcity and Crimsonbridge, these commitments are not sufficient to compensate the lack of incentives. The lack of incentives is a consequence of the fact that the public company's shareholders are bound to award the task of household waste collection to the company. There is no competition. Furthermore, in the cases of Scarletcity and Crimsonbridge, with the autonomization of the municipal service, all knowledge available in the municipal apparatus concerning household waste collection was lost when all specialised employees were transferred to the public company. Consequently, these municipalities were no longer equipped to conduct negotiations in a professional way. In the set-up phase of the public company, municipalities had been too weak while during the contract period they were unable to compensate for the disadvantages caused by their initial weakness. Adaptive autonomy is, therefore, weak and the adaptive integrity is neither high. With regard to contract law, we observe that the duration of the contracts is indefinite or for a period of 10 years. Settling disputes takes place through arbitration. Enforcement and degree of completeness are both semi-strong. Enforcement instruments are available. At least, they are stipulated in the contract. They are not always implemented, however. Furthermore, not all municipalities have instruments to monitor the execution of tasks (an example is provided by Carminecastle). The degree of completeness of the contract, especially that of the SLA, is not high. Municipalities have defined the service level in

		Asset specificity		
		Nonspecific	Mixed specific	Idiosyncratic
Uncertainty	Low uncertainty	contracting out	public company	municipal service
	Moderate uncertainty	contracting out	contracting out	municipal service
	High uncertainty	municipal service	municipal service	municipal service

Table 7.2: Matching local governance structures with public transactions

vague terms. The prices are determined on the basis of a tariff of essential tasks. Many tasks have to be specified during the time of duration of the SLA. This is even true with regard to their prices.

7.3 Prediction on alignment in waste collection

Given the former characterizations of local governance structures and of the transaction of household waste collection, we are now able to formulate when according to transaction cost economic theory alignment occurs. Alignment, again, is the case when the chosen governance structures fit the characteristics of the transaction. But when do these two match? The main predictions with regard to alignment and misalignment are formulated in Section 4.3.1. Table 7.2, already presented in Chapter 5, shows the match of local public governance structures with local public transactions that results from economizing efforts. Transactions conducted under low uncertainty demand additional safeguards when the level of asset specificity increases. Additional safeguards are included when moving from contracting out to public company and, finally, to municipal service. If transactions are conducted at a moderate level of uncertainty, contracting out is most efficient in case of nonspecific investments. This is also the case when transactions are characterized by a moderate level of uncertainty and mixed asset specificity. Since with bilateral contracting, negotiations on adaptations are not expected to be costly, as is expected with multilateral contracting in public companies. Transactions either conducted under a high level of uncertainty or characterized by a high level of asset specificity require a level of adaptation and safeguards secured by a municipal service. In the case of household waste collection this means the following. The attributes of this transaction are characterized in Section 7.1 as recurrent, mixed asset specific and moderately to highly uncertain. If the frequency is high, as in the case of the provision of household

waste collection, the two other attributes are decisive (see Section 4.1.2). With mixed specific investments and a moderate to high level of uncertainty, Table 7.2 shows that the matching governance structures are contracting out and/or municipal service. Since we were not able to classify the uncertainty of the transaction as either moderately uncertain or highly uncertain, we are not able to choose definitely for contracting out or municipal service. Recall, however, Williamson's analysis of transactions with mixed specific investments and increasing uncertainty. In that case, Williamson maintains, markets are preferable to hybrids, and hierarchies preferable to both hybrids and markets (see Section 2.4). In Section 4.3.1 we build on this in our analysis of alignment of public sector transactions and governance structures. Here the same analysis is made. In such cases, contracting out and municipal services provide a better alignment than public companies, because in the case of public companies readjustments cannot be made bilaterally (as is the case with contracting out) or by fiat (as within a municipal service). With public companies mutual consent is required among municipalities and between the different municipalities and the public company. This will take too much time. If in a public company readjustments to disturbances are negotiated laboriously only to be made obsolete by the next disturbance requiring the following round of negotiations, failures of readjustment are predictable. The conclusion we draw on the basis of this is that the public company is a misaligned mode of governance in case of the provision of household waste collection and that contracting out and municipal service both are aligned modes of governance regarding this transaction.

In Chapter 5 we formulated two propositions concerning this alignment. The *first proposition* is a prediction to the effect that agreement between transactions and governance structures will lead to a transaction cost economizing result. The *second proposition* is a prediction to the effect that aligning transactions in an economizing way yields a better performance. In the following two sections we confront the results of our empirical research with these two predictions. To test the predictions, we analyse the transaction cost economizing result and the performance of the collection of household waste under alternative modes of governance, namely contracting out to a private firm, public company and municipal service.

7.4 Analysis of transaction costs

In this section, we analyse the transaction costs of the different modes of governance. We start by analysing the transaction cost economizing result on the basis of an analysis of types of direct costs and costs of frictions represented in Table 7.3. This table we have already presented in Chapter 5. The table shows that asset specificity requires

	Asset specificity	Environmental uncertainty	Behavioural uncertainty
Sources of transaction costs	safeguarding	safeguarding and adaptation	performance definition and evaluation
Type of transaction costs			
Direct costs	costs of crafting safeguards	communication, negotiation and coordination costs, and costs of crafting safeguards	specification and measurement costs
Costs of frictions	failure to invest in productive assets	maladaptation; failure to adapt	productivity losses through effort adjustments and bad performance

Table 7.3: **Sources and types of transaction costs** (based on Rindfleisch and Heide (1997))

safeguarding. This source of transaction costs therefore leads to direct costs of crafting safeguards and, furthermore, to costs of frictions of failures to invest in productive assets and costs connected with the high mutual dependency between contracting partners. Environmental uncertainty, as a consequence of political sensitivity and policy and technological change, demands adaptation and safeguarding. This source of transaction costs leads to direct costs of communication, negotiation and coordination, as well as direct costs of crafting safeguards. Costs of frictions are costs of maladaptation and of a failure to adapt. Behavioural uncertainty as a consequence of difficult-to-measure services demands performance specification and evaluation. This source of transaction costs leads to direct costs of specification and measurement, while costs of frictions are a consequence of productivity losses through effort adjustments or bad performance.

These costs are tracked down on the basis of an analysis of the working rules of the governance structures. In Chapter 6 we described the working rules laying down the mechanisms, procedures and social practices of the governance structures. This description pictures the relative level of efficiency of the different governance structures. It is not our aim to quantify direct costs and costs of frictions. We only compare the relative levels of these costs. In the next section we discuss the types of direct costs and costs of frictions per mode of governance on the basis of the data characterizing the different

municipalities. Then, we compare the levels of these costs, confront the outcomes of the comparison with our first proposition, and finally conclude whether alignment really tends to lead to a transaction cost economizing result.

7.4.1 Municipal services

The types of direct costs and costs of frictions related to municipal services are represented in Table 7.4. Important safeguards to deal with problems connected with asset specificity are bureaucracy and ownership of the collection infrastructure insofar as they serve to protect specific investments in personnel and collection means and vehicles. However, this entails direct costs of bureaucracy. These costs can be related to the number of management staff, which in Limesdale consists of the head of the department, an officer charged with matters of policy, a manager operations and three team leaders. In Myrtlefield, the management consists of the head of department, an advisor, a project leader and a small number of team leaders not all of which are working full time in the field of waste collection. In Olivetown, the management of the waste department is formed by the head of the department, a management assistant (for 20 percent of his time), a manager and assistant-manager. In addition, a private consultancy firm is hired for one day a week for policymaking. Since all employees of the waste removal departments are on the municipality's payroll, the collective labour agreement for municipal officials is applicable to all of them. Furthermore, the municipality itself has to make investments in the collection infrastructure, that is collection means and vehicles. Costs of frictions are not demonstrably incurred in the municipalities with municipal services of our case study, but could arise when a municipality is unable to make specific investments due to their relatively small size.

Environmental uncertainty requires safeguarding and adaptation. By employing all personnel involved in the collection of household waste, the municipal authorities are able to respond quickly to demands from residents as well as to changes at the national level or in technology. This leads to direct costs of bureaucracy already discussed above. Adaptation takes place through coordination and communication along hierarchical lines. Most important in this respect are the relationships between the municipal executive and management of the waste department, and between the management of the department and the employees actually performing the waste collection tasks. In all municipalities with a municipal service, consultation between the management of the department and the municipal executive takes place fortnightly. In this way, the local authority and the waste management department are able to adjust in a concerted way to changing circumstances and changing needs and questions of residents of the municipality. In addition, the management of the department has direct contact with the

	Asset specificity	Environmental uncertainty	Behavioural uncertainty
Sources of transaction costs Nature of governance problem	Safeguarding	Safeguarding and adaptation	Performance definition and evaluation
Type of transaction costs Direct costs	Bureaucracy Ownership of collection infrastructure	Administrative consultation between management department and municipal executive (fortnightly) Communication through hierarchical lines Direct contact between management department and dustmen (regularly via team managers)	Performance definition by municipal executive and council through budget (municipal waste charge), business plan, management contract and waste management plan Evaluation by municipal executive and council few times a year (varying from one to three times) mainly on the basis of waste management plan and budget Definition of performance of tasks by management department through oral communication via team managers Complaints registration Evaluation by team managers monitoring on the street during the performance of the tasks (in some cases only marginally)
Costs of frictions	Investments are not made because of the size of the municipality		Problems arise concerning the level of performance because of a lack of well defined performance indicators or a lack of control

Table 7.4: Transaction costs related to municipal services

employees performing the tasks in the field of the collection of household waste. In most municipalities, management and employees are even housed in the same location. Besides, team leaders or operational managers coordinating the tasks to be performed, communicate the changes that have to be introduced in the execution of tasks as agreed upon between the municipal executive and the waste department management. Apart from these direct costs, there are no significant costs of frictions with regard to environmental uncertainty.

Service measurability requires that performance be defined and evaluated. This takes place at the level of the municipal executive and at the level of the management of the waste department. The municipal executive and municipal council determine the expected level of performance of the waste department in the municipal budget and, indirectly, by means of the height of the municipal waste charge. Furthermore, in most municipalities the head of the department and the municipal executive draw up a management contract or business plan in which agreements on output are laid down. Finally, the municipal executive and municipal council are involved in the procedure for establishment of the waste management plan in which policy on environmental performances and the infrastructure of the waste collection is laid down. The municipal executive and the municipal council discuss and approve the budget of the waste management department once a year. The waste management plan is discussed and submitted for approval once in four years and evaluated once a year. In addition, the regular meetings between municipal executive and heads of the waste departments in the different municipalities are used to evaluate performance in an informal way. In Limesdale, the head of the department also has to report two or three times a year to the head of the sector to which the department belongs. The specific performances of the employees are defined at the level of the management of the waste department. This takes place through oral communication via the team leaders or operational managers. Evaluation takes place on the basis of a complaints registration system and internal control of the execution of tasks. In most cases, team leaders of the waste department supervise the employees during the execution of their tasks. In Myrtlefield, only marginal internal control takes place. Management, in this case, relies on the responsibility of the employees for their own tasks. In addition to these direct costs of performance and evaluation, also costs of frictions occur. Problems arise because the level of performance is not well defined due to a lack of performance indicators. Furthermore, in some cases there is no control because the management simply relies on dustmen's own responsibility for their tasks. Most municipalities solve problems by dealing with problems and complaints immediately without entering in discussions on who is to blame for problems such as unemptied wheelie bins or waste dumped in the surroundings of a container. Extra collection rounds are made

in such cases.

7.4.2 Contracting out modes

The types of direct costs and costs of frictions related to contracting out to private companies are represented in Table 7.5. In case of contracting out, safeguarding asset specific investments takes place on the basis of contracts and of the ownership of (parts of) the collection infrastructure. Contract duration is of particular importance in this respect. The long duration of a contract safeguards the specific investments private companies have to make in collection vehicles and personnel. In Denimborough, the SLA has a duration of 6 years, while the contract duration of the Specification of Indigoford is three years, with a possibility of extending two successive times for one year periods. When the extensions are taken into account, the duration of both contracts is about the same. Ex ante, it takes time and negotiations before a contract is agreed on and signed. In addition, Indigoford has to organize a tendering process. Municipalities hire a private consultancy to assist them in writing the SLA or Specification. Furthermore, the municipality employs municipal officials to make the policy regarding waste collection. To that end, Denimborough employs three employees and Indigoford one and a half employees. In addition, the municipalities own (part of) the wheelie bins and containers. Moreover, they become owners of the collected waste. Indigoford owns all wheelie bins and containers, while Denimborough is only part owner. In Denimborough, therefore, frictions could arise because renewal of the contract involves that assets must be transferred to the municipality against a value determined by an independent assessor. In both cases, during contract execution, parties have to reach agreement on investments that either of the two parties – municipality and private company – want to make. Since the duration of the contract is relatively short, some investments in personnel and vehicles might be avoided. This results in costs of frictions.

In order to respond to the political sensitivity of the transaction, parties agree on how to deal with changing circumstances or adjustments in the SLA or Specification. One important point of agreement is the periodical meetings between municipality and private company. These meetings are used to evaluate the preceding period and to discuss and negotiate adjustments to the contract. In Denimborough, these meetings take place on a monthly basis. In addition there is frequent (informal) contact between the supervisors, the operational manager of the private company and the municipal officials. This facilitates adaptations to changing circumstances or demands of residents. In Indigoford, the account manager and coordinator of the private company and the head of the department and supervisor of the municipality consult on the activities of the private company and negotiate adjustments to the Specification four times a year. In addition,

Impact of Alignment and Misalignment

	Asset specificity	Environmental un- certainty	Behavioural uncer- tainty
Sources of transaction costs Nature of governance problem	Safeguarding	Safeguarding and adaptation	Performance definition and evaluation
Type of transaction costs Direct costs	Specification/SLA with a duration of 3 to 6 years Ownership of collection means Bureaucracy	Specification/SLA which specifies how to deal with adjustments Periodical meetings on management level between private company and municipality in which evaluations and negotiations take place Meetings and frequent contact between the municipality and operational manager or coordinators of the private company Consultation between municipal officials and municipal executive	Specification of collection duties in Specification/SLA Waste sorting analyses Reporting obligation Supervisors on the street Random checks and joint inspection rounds Complaints registra- tion
Costs of frictions	Brief duration of the contract could cause failures to invest in collection infrastructure	Additional consul- tation to what is agreed upon in the SLA or Specification, additional costs as a consequence of adjustments Discussions on what is exactly agreed upon in the Specifi- cation/SLA	Discussions on whether or not private com- pany complies with what is agreed upon; sanctions in case of non-observance

Table 7.5: Transaction costs related to contracting out modes

there are monthly working meetings between the supervisor of the municipality and the coordinator of the private company. Besides, the supervisor of the municipality has daily contact with the dustmen in the streets. These aspects all involve direct costs. Costs of frictions arise in the form of costs of adjustments to the contract. Furthermore, in both municipalities additional consultation (to what is agreed in the contract) is needed to react adequately to developments and demands of the municipality. These consultations often concern discussions on what is meant exactly in the contract. These frictions are to some extent mitigated by the informal contacts and the good relationship between both parties. Adjustments are often made informally. This is particularly the case in Indigoford.

The attribute of service measurability is safeguarded by performance definition and evaluation. Expected activities are precisely described in the SLA or Specification. These stipulations are very complete. For example, problems with regard to illegally dumped waste are solved at once by the introduction of clean times daily (Indigoford) or weekly (Denimborough). These agreements are interpretable only in one way and are easy to monitor. Further safeguards are monthly reporting duties (Indigoford) or even weekly reporting duties (Denimborough), waste sorting analyses and complaints registration systems. In addition there are supervisors on the street. In Denimborough, supervisors are employed by the private company. In addition the municipality makes monthly random checks and joint inspection rounds four times a year. In Indigoford, monitoring of activities of the private company is done by a supervisor of the municipality itself who is on the street daily and who has contact with the dustmen about the way in which they perform the tasks. The supervisor takes pictures when problems arise and sends the evidence to the private company directly. In case private companies fail to comply with the contractual duties, they have time to correct this before sanctions are imposed. The costs involved are costs of frictions. Frictions can also arise as a consequence of adjustments to the contract that have to be made or of disagreement between parties on whether or not the private company fulfils the contract.

7.4.3 Public companies

The governance structure of public companies brings with it direct costs and costs of frictions. The types of these costs are represented in Table 7.6. The governance problem of safeguarding asset specificity leads to direct costs of negotiating and concluding shareholder agreements and costs attached to the ownership of the collection infrastructure. The municipalities, as shareholders, award the task of household waste collection to the public company for ten years. After expiration of this period, the Shareholders Agreement has to be renewed and reviewed. Ex ante, it takes time and cumbersome

	Asset specificity	Environmental uncertainty	Behavioural uncertainty
Sources of transaction costs Nature of governance problem	Safeguarding	Safeguarding and adaptation	Performance definition and evaluation
Type of transaction costs Direct costs	Shareholders Agreement with a duration of 10 years or indefinite Ownership of collection means Bureaucracy	SLA specifies how to deal with adjustments Regular meetings and frequent contact between municipal officials and operational managers of the public company General Assembly of Shareholders and additional consultation between shareholders Periodical meetings between municipal officials and municipal executive	Specification of collection duties in SLA Reporting obligations Complaints registration by public company
Costs of frictions	Failures to invest in case not all shareholders consent to changes in the collection infrastructure or in case the contract ends in the near future	Lack of flexibility Additional consultation to what is agreed upon in the SLA, additional costs as a consequence of adjustments and discussions on what is exactly agreed upon in the SLA	Monitoring arrangements are laid down in the SLA, but are not executed which could lead to malperformance Lack of trust between company and municipality Lack of enforcement instruments

Table 7.6: Transaction costs related to public companies

negotiations before a Shareholders Agreement is agreed upon and signed. These negotiations are multilateral, between all municipalities that are shareholder of the public company. An additional safeguard of asset specificity with costs attached to it is the fact that the municipalities own parts of the collection infrastructure, to wit wheelie bins, containers and the waste that has been collected (except for Scarletcity which only partly owns the collection means). The municipalities employ roughly two employees to draw up a policy in the field of waste collection and to manage the contractual relationship with the public company. Costs of frictions arise as a consequence of failures to invest. These failures occur when not all the shareholders agree to changes in the collection infrastructure or when the contract ends in the near future. In the former case, the size of the public company will not be used sufficiently. In the latter case, the public company does not have enough guarantees to make the investments.

With regard to the political sensitivity of the transaction, the municipality and the public company enter into a SLA in which they lay down arrangements on how to deal with adjustments or changes. The SLA is reviewed and changed once a year. Furthermore, there is room for adjustments during contract execution. These can be discussed in consultations between the public company and the municipality, which take place on a regular basis. In Crimsonbridge, both parties have regular meetings on different levels: operational meetings, tactical meetings and management meetings. The frequency of these meetings differs. In the other municipalities, the frequency is not specified precisely, but consultation takes place regularly between municipal officials on one side and operational managers and coordinators of the private company on the other side. This has an informal nature. In addition, there are some adjustments to which all municipalities have to agree. As shareholders of the public company, they have to coordinate their position with that of the public company. This is done in the General Assembly of Shareholders and in some circumstances also without involving the General Assembly. Also, municipal officials have regular consultations with the municipal executive. This takes place twice a month. Apart from these direct costs, costs of frictions are caused by a lack of trust between the company and the municipalities. Municipalities consider the public companies their own, while the public companies see themselves as independent from the municipalities. Especially when adjustments to the tasks are concerned and additional costs are involved, negotiations are difficult. Especially in Crimsonbridge a lack of flexibility on both sides of the relationship can be recognized, which requires additional consultation. Controversies about what is agreed on and what not, take place regularly. This obstructs adjustments, which in turn causes maladaptation. In Scarletcity and Carminecastle, the public company is more willing to perform additional tasks if necessary. In any case, adjustments to the SLA demand additional costs.

The third governance problem is that of performance definition and evaluation. This is addressed by laying down in the SLA all requirements concerning the tasks to be performed and the quality of their performances. These agreements are of a relatively incomplete nature. Many aspects are to be filled in during contract execution, for example, in additional plans. Once a year, the SLA is reviewed and renegotiated. Ex ante, it takes time and negotiations to conclude the SLA; this process is repeated once a year. Evaluation of performance takes place on the basis of reports submitted by the public company on a regular basis. Furthermore, the public company has to keep a complaints registration system and to report on the amount and types of complaints registered. Monitoring duties are (partly) laid down in the SLA, but not actually executed. In particular Scarletcity and Carminecastle rely on the own responsibility of the public company. In Crimsonbridge, a supervisor charged with supervising activities in the public domain pays attention to the way in which waste is collected, but this is not done systematically. Next to these direct costs, costs of frictions arise because, although laid down in the SLA, monitoring arrangements are not executed. This could lead to permanent malperformance, because municipalities lack actual instruments to enforce compliance. Besides that, as discussed above, municipalities and the public companies do not trust each other owing to disagreements on what is specified in the SLA and how the SLA should be executed. Both parties have different views on each others role in the relationship.

7.4.4 Alignment and transaction costs

The analysis of types of direct costs and costs of frictions has not yet informed us about the levels of these costs. Such levels can be determined in a comparative analysis, that is, as relative cost levels. When we compare the types of costs of the three modes of governance, our findings are as shown in Figures 7.1, 7.2 and 7.3.

As an apparent answer to costs related to asset specificity, all municipalities, irrespective of the mode of governance, own parts of the collection infrastructure. They own at least collection means, such as wheelie bins and containers, and the waste that has been collected. In addition, municipalities with a municipal service also own collection vehicles and personnel. This entails a higher level of direct costs of bureaucracy as a consequence of the amount of management staff and the burdens flowing from collective work agreements for municipal officials and supporting staff. Most of these costs are included in the total direct waste management costs discussed in the next section (Section 7.5). Furthermore, the difference is not very large, because the municipalities do not have a large staff charged with the management of the department. Most municipalities have a waste department managed by a head of department who is assisted by a policy advisor, team managers and coordinators. The other municipalities have to write

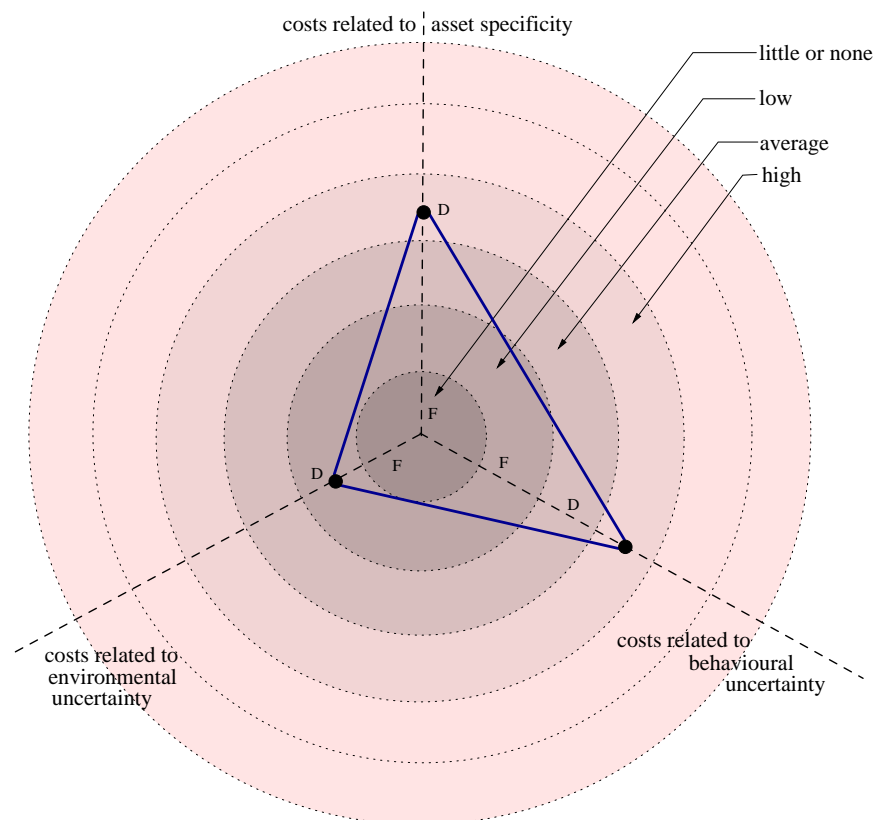


Figure 7.1: **Transaction costs of municipal services** (with D representing the direct costs and F the costs of frictions)

contracts and negotiate them. To that end they employ about two municipal officials. Consequently, the level of direct costs in municipal services can be characterized as high, while the level of costs in contracting out and public companies is average. The costs of frictions are in each mode of governance of a different kind. The costs of frictions of the municipal services and contracting out modes as a consequence of failures to invest are little or none, while the costs of failures of this kind are larger in public companies. This is a result of the fact that shareholders of the company have to consent to investments that have to be made and they do not always give their consent. Public companies, therefore, have a low level of costs of frictions.

Regarding environmental uncertainty communication, coordination and negotiation lead to direct costs. With municipal services, the emphasis lies on communication and coordination between municipal executive, the head of the department and employees carrying out the collection of waste. This takes place through hierarchical lines on a regular basis. The level of these direct costs is not significantly different from the costs

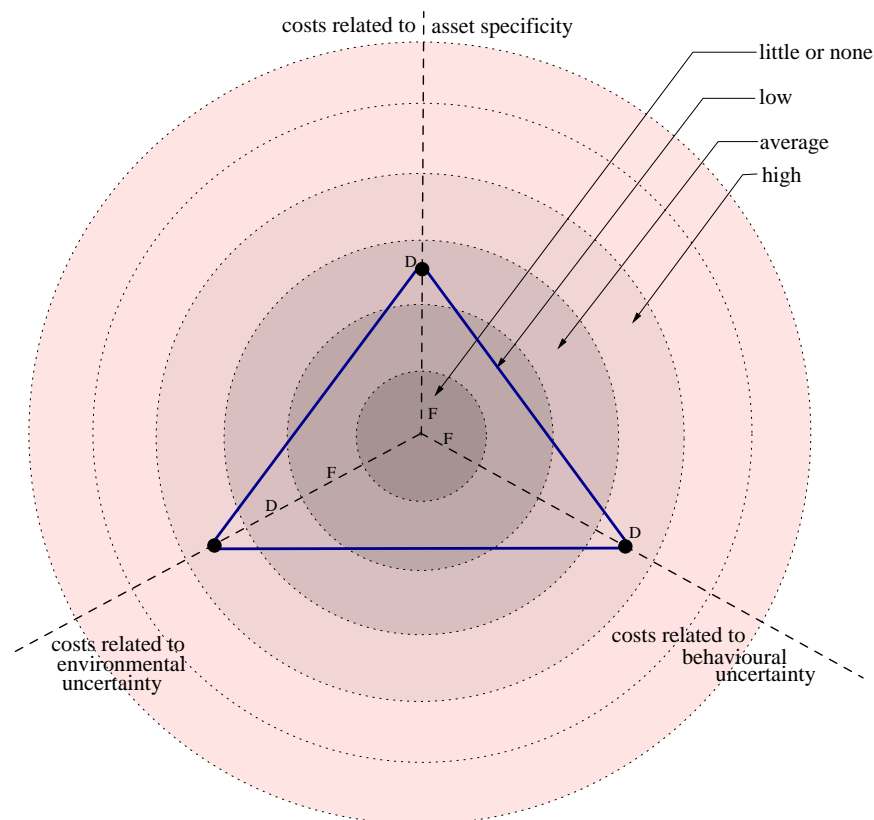


Figure 7.2: **Transaction costs of contracting out modes** (with D representing the direct costs and F the costs of frictions)

in the two other governance structures. In the latter two cases as well, the emphasis lies on communication and coordination. However, in addition they require negotiation because adjustments to the contract have to be agreed on and cannot be imposed as with a municipal service. In cases of contracting out, communication and negotiation take place in the framework of the relationships between the waste department and the municipal executive and the waste department and the private company, respectively. Public companies are characterized by an additional relationship, namely that among shareholders of the public company. This leads to a higher level of direct costs. Therefore, we characterize the level of direct costs of municipal services as low, of contracting out as average, while the level of direct costs of public companies is high. Both contracting out and public companies cause costs of frictions as a result of either the adjustments to the contract that have to be made or the disadvantages attached to their omission. In the case of public companies, these frictions are the more severe because parties are involved in a multilateral relationship rather than a bilateral relationship as is the typical



Figure 7.3: **Transaction costs of public companies** (with D representing the direct costs and F the costs of frictions)

outcome of contracting out. Consequently, municipal services have little or no costs of frictions, while contracting out and public companies are characterized respectively by a low and average level of costs of frictions.

Behavioural uncertainty demands performance definition and evaluation. In the contracting out modes the level of direct costs is high in comparison to the other governance modes. Frictions do exist but they are marginal, because parties have submitted themselves to a highly complete contract underlying their bilateral relationship. In the case of public companies, contracts are incomplete and evaluation and monitoring only takes place marginally. The direct costs are, therefore, lower than with contracting out. However, costs of frictions are higher because of insufficient control and means of enforcement. Malperformance, therefore, occurs inevitably. With municipal services, the direct costs are higher than with public companies, but lower than with contracting out. Performance evaluation by the municipal executive takes place a few times a year. Assessment of the actual collection of waste does take place by team managers as part of their daily

work. Costs of frictions are due to malperformance as a consequence of a lack of well-defined performance indicators. This is compensated to some extent by the practice of solving problems without indicating who is to blame for causing them. Costs of frictions, therefore, exist but are not as high as with public companies. Summing up, we characterize the level of direct costs of municipal services as average, of contracting out as high and of public companies as low. The level of costs of frictions in municipal services is low, in contracting out it is little or none, while it is average in public companies.

The shape of the triangles in Figures 7.1, 7.2 and 7.3 refers to the level of transaction costs. 'D' and 'F', respectively, refer to the level of direct costs and costs of frictions. To highlight conceptually the total level of transaction costs of the different governance structures, we depict on the axes the sum of direct costs and costs of frictions. In this way, the figures show that the level of transaction costs in the governance structure of public companies is highest, followed by contracting out and, finally, municipal service. When we compare these relative levels of transaction costs with our first proposition – a prediction to the effect that agreement between transactions and governance structures will lead to a transaction cost economizing result – we find in them support for this proposition. In Section 7.3 we concluded that the public company is the misaligned mode of governance for the provision of household waste collection and that both contracting out and municipal service are aligned modes of governance for this kind of transactions. In our analysis in this section we have seen that the public company is the governance structure with the highest relative level of transaction costs which is in agreement with the above conclusion. Our case study confirms the prediction that agreement between transactions and governance structures will lead to a transaction cost economizing result, while misalignment will lead to a higher level of transaction costs.

7.5 Analysis of performance

The second proposition is a prediction to the effect that a transaction cost economizing result will lead to a better overall performance. Our analysis of performance is based on secondary data from the benchmark of SenterNovem. We focus on total direct waste management costs³, collection costs of residual and organic waste and quality of service delivery. Total direct costs are the costs of the collection and disposal of waste. With regard to total direct costs, we have seen in Chapter 6 that the waste collection models differ in a substantial way, especially with regard to the collection of specific types of waste such as paper, textiles and bulky waste. The differences in total direct costs can, therefore, at least partly be explained by the differences in collection methods. In Chap-

3. These direct costs are not to be confused with the direct costs discussed in the previous section.

ter 5, we discussed the importance of homogeneity of the transaction for the possibility to relate the level of performance to the alignment of transactions and governance structures. This incites us to add to the analysis a subindicator of the benchmark, that of the costs of collecting residual and organic waste. As can be seen in Chapter 6, municipalities are fairly homogeneous in the collection of this type of waste. Almost all municipalities collect residual and organic waste by means of grey and green wheelie bins in low-rise residential areas and (underground) containers in high-rise residential areas. In that sense, this subindicator operates as a control variable. An additional reason for focusing on collection costs is that in this way costs of waste disposal are left aside. The disposal of waste is not a part of the transaction that is studied in this research, because it is organized in a way separate from the collection of waste. Disposal costs make up roughly 50% of the total direct costs (SenterNovem Uitvoering Afvalbeheer, 2006a). However, in the sample of municipalities in this study deviations exist which would possibly distort our analysis. Some of the municipalities – Myrtlefield, Olivetown and Crimsonbridge – have relatively low disposal costs (making up 40% of total direct costs), while Limedale, Carminecastle and Indigoford have relatively high disposal costs (making up 60% of total direct costs in case of Limedale and Carminecastle, and 65% in case of Indigoford). With regard to collection costs of residual and organic waste, we still have to be careful in drawing conclusions as well, because the size of municipalities and methods of waste collection influence these costs (Dijkgraaf, 2004). Olivetown and Indigoford, compared to the other municipalities, are relatively small, while Myrtlefield has a very specific method of collecting waste, namely via dual bins, which is an expensive way of collecting (see Section 7.3).

The collection costs of residual and organic waste are determined on the basis of the definition in the Municipal Waste Monitor (AOO, 2004). These costs are the sum of all costs that can be allocated directly to the collection of residual and organic waste of households per household (AOO, 2004, p. 17). These directly allocatable costs of waste collection are costs of vehicles, facilities (collection means of door-to-door collection and disposal facilities), personnel carrying out the collection of waste and other costs (such as subsidies). In case of contracting out and public companies, vehicles and personnel are often part of the tariff per household. The data used to determine the costs of the collection of residual and organic waste are the operating costs of collection vehicles (per type of waste and civic amenity site), the operating costs of collection means of door-to-door collection and disposal facilities (per type of waste and civic amenity site), costs of personnel (per type of waste and civic amenity site), costs of collection contract and other collection costs (such as subsidies) divided by the number of households per January 1 that year. VAT and cancellations of debts are not taken into account for the

benefit of a fair comparison.

The level of service delivery is based on a questionnaire which is filled out by the municipalities themselves. On the basis of this information, a service delivery score is determined. In the benchmarks of 2005 and 2006, different methods were used to determine the level of service delivery. In 2006, the maximum score on service delivery was 142 points. The service delivery score is made up of the service delivery package (maximally 103 points), referring to the possibilities offered to citizens to dispose of their waste separately and customer-orientedness (maximally 39 points), concerning the efforts of a municipality to make an inventory of complaints and opinions of citizens and the activities a municipality undertakes to deal with complaints. In 2005, the service delivery score was determined in a different way. The questions, definitions and scoring were based on the Municipal Waste Monitor (AOO, 2004). The maximum score on service delivery was, in this case, 98 points. This is made up of the following parts: service delivery package (maximally 71 points), customer-orientedness (maximally 15 points), customer satisfaction (maximally 10 points) and two bonus points. This description shows that the total score, in both years, consists to a large extent of the results on the service delivery package. These results are determined by the waste collection models of the municipalities represented in Chapter 6 and informs us about the homogeneity of the transaction. Furthermore, we must keep in mind that municipalities with a higher level of service delivery are expected to have higher waste management costs.

In Table 7.7 results on the main indicators in this study, namely total direct costs of waste management, collection costs of residual and organic waste, and the level of service delivery, are compared. In the following sections we shall discuss the relative levels of performances per governance structure.

7.5.1 Municipal services

The performances of municipalities with a municipal service give a nuanced picture. Limedale and Myrtlefield, with total direct waste management costs of respectively 159 (2005) and 148 (2006) euros and 132 (2005) and 160 (2006) euros, have relatively low total direct costs compared to the other municipalities of the study. Olivetown shows quite a different picture with relatively high total direct costs of 208 euros in 2006. The same is true for collection costs of residual and organic waste. Limedale and Myrtlefield have relatively low collection costs, while Olivetown has relatively high collection costs. The levels of service delivery differ, in that Myrtlefield and Olivetown have a higher level of service delivery, which is mainly caused by a sizeable and intensive service delivery package, compared to that of Limedale. These differences can serve as an explanation for the differences in total direct costs between Limedale and Myrtlefield. A further expla-

Main indicators Benchmark	Total direct costs		Collection costs		Service delivery	
	2005	2006	2005	2006	2005	2006
Municipal services						
Limedale	159	148	41	40	55	63
Myrtlefield	132	160	51	56	64	71
Olivetown	-	208	-	73	-	67
Contracting out						
Denimborough	167	-	55	-	56	-
Indigoford	-	158	-	34	-	56
Public company						
Carminecastle	195	-	59	-	52	-
Crimsonbridge	201	211	73	73	63	66
Scarletcity	246	237	61	56	57	62

Table 7.7: **Performance on main indicators** (costs in euros per household; service delivery in percentage of the maximum number of points) (SenterNovem Uitvoering Afvalbeheer/Cyclus (2005) and SenterNovem Uitvoering Afvalbeheer/Cyclus (2006))

nation is the specific method of collecting residual and organic waste in Myrtlefield. An important factor influencing the levels of total direct costs and of the costs of collecting residual and organic waste of Olivetown, is the relatively small size of this city.

7.5.2 Contracting out modes

The performances of the two municipalities that contract out the collection of household waste, show a clear picture. Denimborough and Indigoford, with total direct costs of waste management of respectively 167 and 158 euros per household, have relatively low total direct costs compared to the other municipalities in the sample. With regard to the collection costs of residual and organic waste, the municipalities differ. Indigoford has the lowest collection costs compared to the other municipalities, while Denimborough's collection costs are about average. The difference between the two municipalities can be partly explained by the fact that Denimborough has not assigned the task to a private company in a tendering process. In the case of Denimborough, tariffs have been determined in a negotiating process on the SLA, while in Indigoford the waste collection companies had to bid for the contract. In addition, both municipalities have a relatively low level of service delivery as a consequence of a relatively small service delivery package. This partly explains the lower level of direct waste management costs.

7.5.3 Public companies

The municipalities in which the collection of household waste has been assigned to public companies of which they are shareholders give a nuanced picture of the total direct costs of waste management. Carminecastle has total direct costs of 195 euros per household, Crimsonbridge 201 (2005) and 211 (2006) euros per household and Scarletcity 246 (2005) and 237 (2006) euros per household. Based on this, we observe that the level of total direct costs is relatively high compared to municipalities of the other categories. Here, it has to be noted that in Carminecastle, disposal costs make up 60% of total direct costs. In that sense, the level of collection costs of Carminecastle differ substantially from those of Crimsonbridge and Scarletcity. This difference can partly be explained by the levels of service delivery. With a percentage of 52 of the maximum of total points on service delivery, Carminecastle performs relatively poorly, while Scarletcity and Crimsonbridge perform relatively well. The differences in these percentages are caused by a relatively less sizeable and intensive service delivery package in Carminecastle. The higher scores on service delivery of Scarletcity and Crimsonbridge cannot explain their high total direct costs compared to those of the other municipalities in the sample. Taking into account the costs of the relatively homogeneous service of collecting residual and organic waste, we again observe high levels of costs in these municipalities.

7.5.4 Alignment and performance

Figure 7.4 presents the results of a comparison of total direct costs of waste management and the levels of service delivery. Although we have to look at these results with caution, Figure 7.4 and the analysis described in the sections above lend plausibility to the proposition that public companies have relatively high total direct costs of waste management. Furthermore, contracting out modes of governance appear to have relatively low total direct costs and relatively low levels of service delivery. The results of municipal services are more difficult to interpret. Two municipalities have relatively low total direct costs, while one municipality has high total direct costs. As mentioned above, this is partly explainable by the relatively small size of this municipality. Previous studies have already shown that municipalities with a small size have to contract out the provision of household waste collection in order to achieve a high performance.

These conclusions are based on the performances of eight municipalities. These findings are supported by the reports on waste management costs of all Dutch municipalities published every year by SenterNovem. Reports of 2004 and 2005 on the waste management costs of municipalities with fixed fees show that municipalities with a public company on average have higher waste management costs, while municipalities con-

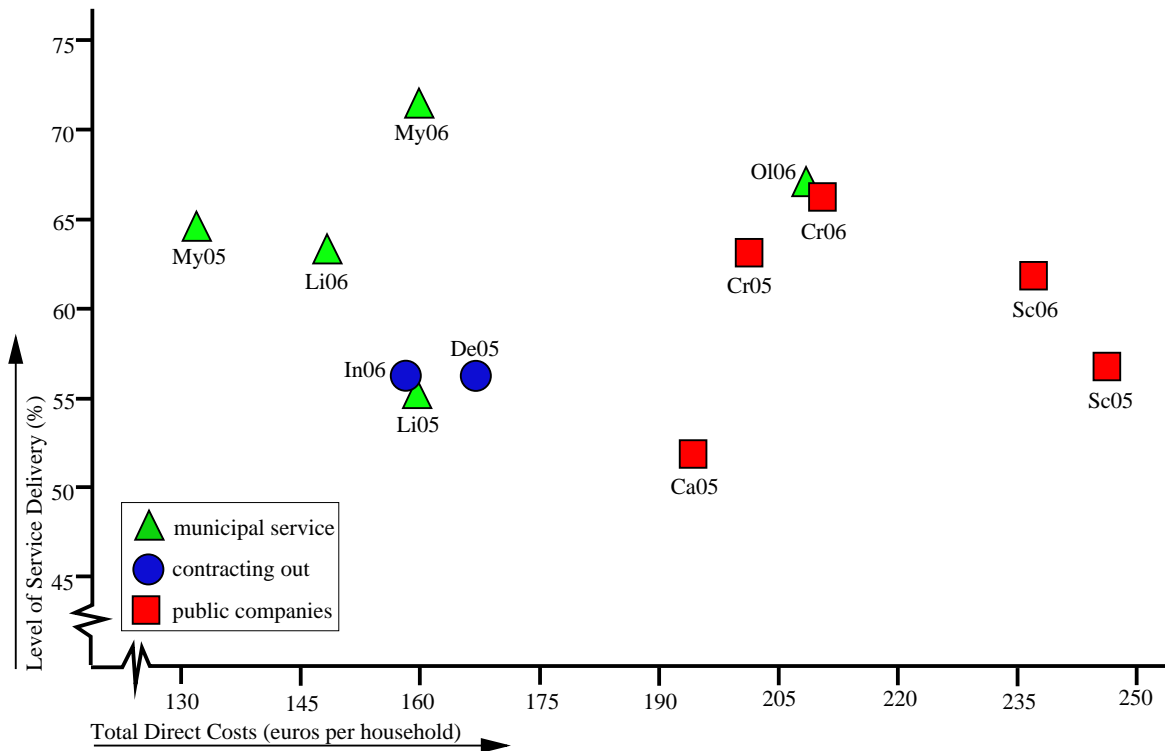


Figure 7.4: Total direct costs versus service level (in euros)

tracting out to a private firm or with a municipal service, are on average cheaper (AOO (2004) and SenterNovem Uitvoering Afvalbeheer (2005)) (see Table 7.8).

When relating these results to our second proposition – the prediction that aligning transactions in an economizing way yields a better performance – we observe the following. In Section 7.3 we concluded that the mode of the public company offers a misaligned mode of governance in case of the provision of household waste collection and that the modes of contracting out and of municipal service both offer aligned modes of governance regarding this transaction. In our analysis in this section we have seen that municipalities with a public company have relatively high total direct costs of waste management and relatively high costs of collecting residual and organic waste compared to the other municipalities. The only exception is Olivetown. Its high costs can however be explained, as said before, by the relatively small size of the municipality. Our case study, therefore, partly confirms the prediction that agreement between transactions and governance structures will lead to a higher performance. Misalignment leads to a lower level of performance in terms of waste management costs and collection costs. Moreover, the aligned modes of governance of contracting out lead to a relatively high performance in terms of costs, while the aligned modes of municipal services show mixed results.

Governance structure	Average waste management costs	
	2004	2005
Municipal service	248	252
Neighbouring municipal service	264	275
Inter-municipal cooperation	253	259
Public company	270	260
Private company	248	247
Other	234	249

Table 7.8: Waste management costs per household of different governance structures using fixed fees (AOO (2004) and SenterNovem Uitvoering Afvalbeheer (2005))

7.6 Related empirical research

Now that the above analysis of transaction costs and performance of different modes of governance and the confrontation of these results with our propositions are available, we can turn to the last of three confrontations of this chapter. This is the confrontation of the outcomes of our own study with related empirical research by others. The organization of the provision of household waste collection has previously received wide attention as well in empirical research inside and outside TCE. In this section, we discuss the results of these studies and compare them with our findings.

Studies on the organization of the provision of household waste collection can be roughly divided in studies that analyse the factors that explain what governance structures municipalities choose for the collection of household waste (Dubin and Navarro (1988), Bel and Miralles (2003), Dijkgraaf et al. (2003) and Walls et al. (2005)) and studies of the costs of these governance structures (Bokkes (1989), Dijkgraaf and Gradus (2003), Brown and Potoski (2004b) and Brown and Potoski (2004a)). The former category of studies is only related to our study as far as explanatory factors are incidentally borrowed from transaction cost economic theory. The latter category is more relevant generally to our research.

In the first category, Walls et al. (2005) aim at identifying factors – including both measures of costs and political concerns – that can explain local governments' decisions. They contend that as environmental objectives have increasingly gained importance, it has become more difficult for local governments to write and enforce contracts capable of helping to achieve all of their objectives. Waste collection in the United States takes place with the aid of a variety of market arrangements, ranging from the public company

to a *laissez-faire* approach, using competing private firms. Between these extremes there are two types of private monopoly: the contract arrangement between local government and a single private firm, and the franchise arrangement whereby the local government assigns a single firm the right, usually in exchange for a franchise fee, to provide a service in a given area. The most common service delivery methods for collection of waste are government provision and contracts; relatively few municipalities use franchises or full private markets. Walls et al. present an econometric model with as explanatory variables technological cost variables, transaction cost/asset specificity concerns, fiscal constraints, environmental regulatory constraints, bureaucratic constraints and considerations and voter ideologies. Their results suggest that political factors play only a small role in the choice of market organization. Rather, the costs of providing waste collection services and transaction costs in contracting appear to be significantly influential.

Other research pays attention to the explanatory variables of choices of modes of governance, but does not take into account transaction cost variables. We observe this in Dubin and Navarro (1988), Bel and Miralles (2003) and Dijkgraaf et al. (2003). Dubin and Navarro (1988) find that the choice of market organization depends on economic factors, such as economies of density and political factors, the power of rent-seeking interest groups, as well as upon the ideological preferences of the community (based on a sample of 261 cities with populations exceeding 2,500 located in 200 Standard Metropolitan Statistical Areas for the years 1974–1975). In addition, Bel and Miralles (2003), more recently, analyse which factors influence the decision to contract out. Their sample consists of 90 municipalities in Catalonia in Spain. They find economies of scale and the existence of neighbouring municipalities where contracting was already used, to be significant determinants. Budget restrictions do not affect the decision to contract out. Furthermore, pragmatic rather than ideological motives determine the choice for a particular mode of governance. Dijkgraaf et al. (2003) analyse 540 Dutch municipalities (96% of all municipalities). They conduct a comparative study of the provision by a private firm, a municipal service and contracting out to another municipality or to an external public organization. They find evidence to the effect that a high level of transfers by the central government or a high level of unemployment raises the probability of public provision. They also find evidence for the assumed relationship between the size of municipalities and private provision. Therefore, scale effects are important factors influencing the choice between public and private provision. Weak evidence is found for the hypothesis that ideological motivations underlie this choice.

The other category of studies is more relevant to our study. These studies analyse the costs of alternative ways of organizing the collection of household waste. They can be further divided into studies that use TCE (Bokkes (1989), Brown and Potoski (2004b)

and Brown and Potoski (2004a)) and studies that solely look into the production costs of waste collection (Dijkgraaf and Gradus, 2003). Brown and Potoski (2004b) explore the service-delivery network of waste collection through case studies in nine communities in the Columbus, Ohio, metropolitan area. They hypothesize that waste collection, executed with the use of assets that are relatively unspecific and with outcomes and outputs which can be measured relatively easy, is a prime candidate for successful contracting, particularly in a large metropolitan area with a lively market of waste collection companies. Brown and Potoski's expectation that few measures to correct market failures would be necessary in the case of waste collection, is not confirmed. All public managers have to take significant action to redress market failures. So, even in conditions where contracting out should be relatively straightforward, their findings demonstrate that managing contracts after their conclusion, is a difficult task, requiring three types of activities: contract management, market maintenance, and network maintenance. This is in agreement with our findings. In the case of contracting out, municipalities have to put their effort in managing the contract by holding regular meetings between the municipality and the private company, by communicating directly with the dustmen who actually carry out the waste collection tasks and by monitoring their activities. In another study, Brown and Potoski (2004a) make the case that procurement decisions should be based not only on price and past performance but must include systematic comparative analyses of the management costs of producing services internally and via contract, respectively. They draw on transaction cost and public sector network research to develop a simple framework for assessing the relative management costs of delivering services under alternative institutional arrangements. This framework identifies the respective types of costs public managers face in delivering services directly and via contract. They study all cities in the state of Ohio with populations over 15,000. Of these cities, 30% delivers waste collection services directly while 54% relies on contracting out to a private company or a non-profit organization. Their conclusion is that governments that provide waste collection services directly have higher management costs than governments that contract for these services. In line with their initial expectations, direct service provision governments are found to employ more managerial staff and to devote more managerial hours to a variety of tasks than contracting governments. However, with regard to monitoring costs, public managers in contracting governments perform significantly more monitoring activities than public managers in direct service provision governments. Monitoring does not take place directly, however. It is 'bought' by specifying in the contract that collectors must fulfil the monitoring tasks themselves and report the outcomes. The conclusion is that, in general, public managers in contracting governments are able to economize on, although not entirely eliminate, their contract management activities.

These activities remain necessary to ensure that waste collection companies do comply with contract specifications and to safeguard overall service quality. Furthermore, Brown and Potoski's results suggest some slippage in performance resulting from contracting out and diminished managerial capacity. Although in our study we did not analyse management costs, but transaction costs, our findings on managerial staff differ from those of Brown and Potoski. We found that the number of managerial staff is about the same in all governance structures. In case of contracting out, the managerial staff is mostly concerned with managing the contracting relationship and monitoring, while in case of a municipal service it is more concerned with managing the department. Furthermore, on the basis of our analysis we cannot confirm that a slippage in performance occurs. We do observe, however, that municipalities that contract out to private firms demand a lower level of service delivery of the private firm than is pursued in other governance structures. This could be viewed as a consequence of the fact that a high level of service delivery is more difficult to define and monitor. Therefore, municipalities limit themselves to a smaller better surveyable service package. More research is, however, needed here.

Supplemental to these two studies of Brown and Potoski, Bokkes (1989) and, more recently, Dijkgraaf et al. (2003) investigate the case of household waste collection in the Netherlands. The former analyses household waste collection from the perspective of TCE, the latter do not choose this perspective. Bokkes (1989) focuses on the micro economic consequences of privatization, that is, changes in costs or prices, or changes in the quantity and quality of a service. He tests various hypotheses in a regression equation in which the increase of the relative prices or costs of waste collection is the dependent variable. Contracting out is compared to inter-municipal cooperation and municipal services. Data are collected from 1978 to 1984. A sample of 25 to 30 observations per year is analysed. The study shows that municipalities that participate in an inter-municipal cooperation have a higher cost increase on average than municipalities that collect waste themselves. However, the difference is not significant. Moreover, arranging price increases by means of indexation mechanisms is shown to have a significant positive effect on price increases. Bokkes concludes that the results are ambiguous when compared to TCE. For although it is possible to use TCE to theorize about the relative costs of alternative governance structures, deriving testable hypotheses from it is problematic. Our study shows that this conclusion can be challenged, since we have been able to derive testable hypotheses. Dijkgraaf and Gradus (2003) focus on cost savings of contracting out. They use data from 85 municipalities in 1996–1997. Of these municipalities 41 collect waste outside: 13 through a independent public organization, 3 through another municipality and 25 through a private collection firm. On average

outside provision leads to 15% lower total costs. Furthermore, private collection is on average 5% cheaper than public collection. In two more recent studies, they find similar results (Dijkgraaf and Gradus (2007) and Gradus and Dijkgraaf (2007)). They conclude that the choice between outside and inside provision is more important than the ownership of the collection service. Competition seems to have more effects than ownership. Dijkgraaf and Gradus's work is related to our research concerning the performance of different governance structures. Their most important conclusion is that outside provision leads to lower total costs in comparison with inside provision. This does not match our conclusions that outside provision actually leads to lower waste management costs in case of contracting out to private companies, but does not in case of public companies. Compared to the latter cases, inside provision leads to relatively low costs. Outside provision by a public company of which the municipalities are shareholders turns out to be a relatively costly option, in terms of transaction costs as well as in terms of performance. Dijkgraaf and Gradus do not distinguish between this type of external autonomization and contracting out to a public company.

7.7 Conclusion

The main objective of this chapter has been to provide an interpretation of the results of the empirical research in terms of TCE as expounded in Chapter 4. As stated in the introduction of this chapter, it comprises reports of three significant confrontations. The first confrontation was that between the transaction and the governance structures eight municipalities in the Netherlands have chosen regarding waste collection. It has shown that public companies are misaligned modes of governance in that the characteristics of the provision of household waste collection do not match the attributes of the typical mode of governance according to the precepts of TCE. The second confrontation – a confrontation of the results of our empirical research with the theory discussed in previous chapters – builds on this conclusion by confronting the two formulated propositions on misalignment and alignment with our empirical results. The first proposition – the prediction that agreement between transactions and governance structures will lead to a transaction cost economizing result – was confirmed in our results. Public companies have a higher level of transaction costs compared to the aligned modes of municipal services and contracting out. The second proposition – the prediction that aligning transactions in an economizing way yields a better performance – was partially confirmed. The misaligned mode of public company shows a relatively high level of total direct costs, which means a relatively low performance. However, the aligned modes of governance show mixed results as far as the municipal services are concerned.

With these results, the fourth research question can be answered positively, because we show that alignment between public sector transactions and governance structures does matter, at least with regard to one type of transaction. The third confrontation was that between the outcomes of our study and the related empirical research by others. Particularly the studies of Brown and Potoski, which also take the perspective of TCE, yielded similar outcomes. Furthermore, our study places in perspective Dijkgraaf and Gradus's conclusion that the choice between outside and inside provision is more important than ownership of the collection service. Ownership does matter as can be seen in the relatively higher levels of costs of public companies.

Chapter 8

Conclusions and Reflection

WE HAVE SITUATED THIS STUDY against the background of the appearance of and debate on recent institutional changes in the public sector. These institutional changes concern developments of privatization, liberalization and autonomization of different kinds of public services. The main incentives for introducing these new modes of governance were, and still are, expectations of resulting efficiency improvements. The occurrence of these efficiency improvements is however questioned. Transaction Cost Economics (TCE) has been put forward as a theoretical approach to address this issue. TCE is expected to offer a cautious and selective program of privatization, with greater attention to ex post implementation problems. In this way, it is informative and should be included as part of the reform calculus (Williamson, 2000).

TCE was originally developed by Oliver Williamson to analyse commercial transactions. As many authors have pointed out (see Chapters 1 and 3), TCE can, however, be used in public sector analysis as well. Decisions of governments to provide particular public services themselves or to contract them out to external partners can be viewed as *make-or-buy decisions* that are central to the original analyses of commercial transactions. In this study, we have focused on institutional changes at the local government level in the Netherlands. The local government level offers excellent opportunities to study one type of public service under different feasible institutional arrangements. It, therefore, makes it possible to apply the type of comparative institutional analysis TCE prescribes in a satisfactory way. In this study, we have addressed the public service of the provision of collecting household waste. Here, a number of institutional changes have resulted in a variety of governance structures. We have analysed three modes of governance, namely contracting out to private companies, public companies and municipal services. In the analysis we made use of TCE. Focusing on make-or-buy decisions in this context entails focusing on the relationship between the public service provider (i.e. local gov-

ernment here) and the public service producer (private or public company, or municipal service). Local governments, as service providers, are subject to strict constraints and can be compared to private entrepreneurs accordingly be viewed as ‘fettered entrepreneurs’. The service consumers are the residents of a municipality. They play no part as partners in the relationship between service provider and service producer. However, they do have a certain amount of influence, due to the fact that the relationship concerns the provision of a public service to them. They are able to influence the relationship in two ways. First, their collective behaviour affects the performance of the public service and secondly, local authorities and local politicians are democratically dependent on and therefore sensitive to their opinions. This insight has been an important element in the main line of argumentation in this study.

We are not the first to study public modes of governance with the use of TCE. Our survey of two strands of literature, TCE literature and public administration literature using TCE for public sector analysis (see Chapter 3), has shown that many attempts have already been made. Although these two strands of literature provide leads for extending TCE to the public sector, they do not result in a theory that is fully equipped for the analysis of public modes of governance. We have seen that little attention has been paid to the distinctive character of the public sector and, more specifically, to the special requirements connected with the provision of public services. Therefore, we first have paid attention to the meanings ascribable to the concepts of TCE in the public sector. Central in our exposition was the *discriminating alignment hypothesis*, the core of TCE. This hypothesis states that transactions, which differ in their attributes, are aligned with governance structures, which differ in their cost and competence, to effect a (mainly) transaction cost economizing result. Next, we have established when alignment between public sector transactions and public sector governance structures is to be expected, following the same line of TCE based reasoning as adopted in private sector studies. The final step in this study was an empirical investigation of whether alignment actually matters. Below, we will address these main elements anew. Some aspects relating to these elements that deserve special attention will be discussed more extensively. Finally, we will suggest promising possibilities for further research.

8.1 Summary of the main argument

The main argument of this study flows from its central research question: *What can the discriminating alignment hypothesis, the core of Transaction Cost Economics, contribute to comparative assessments of the efficiency and performance of governance structures at the local public level?* This central research question has been addressed by efforts for

finding answers to four operational research questions. These will be discussed in the three following sections.

8.1.1 Matching public sector governance structures and transactions

On the basis of the first two research questions: *What are transactions in the public sector and what are their characteristics?* and: *Which governance structures can be distinguished in the public sector and what are their characteristics?* we have tackled the fundamental problem of applying TCE, which was originally developed by Oliver Williamson to analyse commercial transactions, to the public sector. We argued that in order to warrant a fruitful application in the public sector, it is necessary to adapt the theory in such a way that it is capable of taking into account the specific characteristics of the public sector. On the basis of two lines of literature that use TCE for public sector analysis, we formulated distinctive attributes of both public transactions and governance structures. These two lines, which have essentially evolved separately, are the public administration literature – taking a transaction cost-based view of governmental privatization decisions – and the transaction cost economic literature. Both lines provide an important basis for extending TCE to the public sector. One of the studies discussed is Williamson’s study of public and private bureaucracies, in which he addresses the issue of applying TCE to the public sector (Williamson, 1999). Although this work has been important in the stage of setting up our study, it turned out to be of less value as a guide to finding specific characteristics of the public sector. As a consequence of his selection of an extreme case – the case of foreign affairs – Williamson’s contribution to the extension of TCE to the public sector in general has been minimal. His selection forced him to use arguments from outside TCE to determine the efficiency of public governance structures. One of the reasons for his choice was that extreme instances often help to uncover ‘essentials of the situation’ (Williamson, 1999, p. 307). It is true that Williamson has shown how TCE can be applied to governmental make-or-buy decisions. However, his analysis suggests that the hazard of probity is the essence of public sector transacting. This has been proven to be untenable, because the hazard of probity is specifically relevant in the case of sovereign transactions, while many public sector transactions are not sovereign. In this study we have made an attempt to extend TCE to the public sector in a more general manner using both strands of literature mentioned above.

First of all we considered the attributes of the *public sector transaction*. We defined the public sector transaction as the exchange relationship between service provider (i.e. local government) and service producer (municipal service, public company or private company). The content of this typical relationship is formed by, on the one hand, the objective of local government to promote the public interest and, on the other hand, the

objective of the service producer to obtain the right to deliver a public service to members of the population. This third party, the population, is not a partner in the exchange relationship, but its opinion and behaviour do influence the relationship between the service provider and service producer considerably. This has implications for the attributes of the public sector transaction. An additional aspect is the emphasis on promoting the public interest. Often it is difficult to define what the public interest is exactly, let alone to measure it. This has implications for the attributes of the public sector transaction. These aspects as well as the specific elements of the public sector addressed in the TCE and public administration literature can be related to the attribute of *uncertainty* Williamson distinguishes with regard to private sector transactions. Therefore, in contrast to the attempts at including public sector characteristics in TCE analysis by adding attributes to the transaction, we made an attempt at redefining the traditional TCE attributes of *asset specificity*, *uncertainty* and *frequency* that Williamson distinguishes with respect to private sector transactions but this time with respect to public sector transactions. In this way, attributes of public sector transactions remain basically the same as the characteristics Williamson distinguishes with respect to private sector transactions. The details of the contents of the attributes are different, however. This enabled us to keep to the compact manner of classifying transactions (Dow, 1987) and to follow the same reasoning as Williamson followed in original TCE. The redefinition was achieved in the following way. First, we concluded that uncertainty in TCE refers to two aspects, namely, the environmental and behavioural uncertainty. In the public sector, with environmental uncertainty, that is, the predictability of the environment in which the contract is to be executed, we refer to the political sensitivity of a public service and the technical and policy changes the public service is subject to. On the other hand, behavioural uncertainty, referring to the measure of uncertainty facing the service provider, i.e. the government, regarding the behaviour of the service producers depends, in our view, on the service measurability and probity hazards of a public service.

Regarding *public sector governance structures* we followed Williamson (1999) in his definition of the spectrum of public governance structures. However, there was a necessity to refine the attributes in which public governance structures differ from each other. Moreover, we defined the hybrid public sector mode of governance in an alternative way. These adjustments were necessary because Williamson's definition is mainly based on the American situation and thus leaves out important aspects of European public governance structures. The hybrid mode of governance – regulation – as defined by Williamson, is not the central hybrid mode of governance found in European countries. Taking into account other studies that aim to define a spectrum of public sector governance structures (see for example Ménard and Saussier (2002)), we came to the conclusion that the

hybrid modes of governance are highly country specific. We have defined the spectrum of local governance structures on the basis of hybrid governance structures to be found in the Netherlands, as this was the source of the objects of our case study. It became plain that at the Dutch local government level, external autonomization constitutes the central hybrid mode of public governance. Although external autonomization can take many forms, we have concentrated on two modes of governance, namely inter-municipal cooperation and public companies. In the latter case, local authorities are shareholders of the company and at the same time have as principals a long-term contractual relationship with the public company as their agent. A further adjustment of Williamson's spectrum of public governance structures regards the way in which Williamson distinguishes among these governance structures, as this simply does not apply to the situation at the local government level in the Netherlands. These modes of governance vary, according to Williamson, in incentive intensity, bureaucratization, adaptive autonomy and integrity, and contract law. In refining these attributes we relied on Ménard's (2000) study on the variation of contracts and integrated the four factors – duration, degree of completeness, dispute settlement and enforcement procedures – distinguished by Ménard into Williamson's characterization of public governance structures or, more specifically, his attribute of contract law. This led to a new spectrum of public governance structures with at the one extreme *contracting out* to a private company and on the other extreme the *municipal service*. *External autonomization* is located in between these two extremes *external autonomization* is located. Ranging from contracting out to municipal service, the spectrum of local public governance structures shows a development in which authority relations grow in scope and complexity and in which incentive intensity decreases lead to a lower degree of autonomy.

In this extension of the TCE methodology we have stayed as close as possible to the main line of reasoning of TCE to assess whether the discriminating alignment hypothesis, the core of TCE, is applicable to the public sector. With the third research question: *What does Transaction Cost Economics teach us regarding the efficiency of governance structures in the public sector attainable by matching characteristics of transactions and governance structures?* we addressed the question when alignment between public sector governance structures and public sector transactions exists. Following TCE-based reasoning in the private sector, we inferred the conditions in which an alignment can be said to exist between public transactions and public governance structures that is comparable to an alignment in the private sector. The main conclusions are that transactions conducted under a low level of uncertainty demand additional safeguards in case the level of asset specificity increases. By moving from contracting out, to public company, and, finally, to municipal service, safeguards are strengthened. A low level of asset specificity de-

mands a level of safeguarding that is typical of contracting out, while transactions with a high level of asset specificity demand the stronger safeguards of a municipal service. If transactions are conducted in conditions leading to a moderate level of uncertainty, contracting out is most efficient in case of nonspecific investments. This is also expected with regard to transactions characterized by a moderate level of uncertainty and mixed asset specificity. The reason is that in case of bilateral contracting, negotiations on adaptations are not excessively costly. Public companies, then, are unsuitable, due to high costs of negotiating on adaptations, while municipal services offer a level of safeguarding that is far higher and therefore costlier than required. Transactions either conducted in conditions with a high level of uncertainty or characterized by a high level of asset specificity require a level of adaptation and safeguards which are typical of a municipal service.

8.1.2 Does alignment matter?

With the formulation of these theoretical conjectures and expectations the theoretical part of this study was rounded off. Building on this we subsequently tackled the problem whether alignment between public transactions and governance structures matters from yet another angle by going into the fourth research question: *Does alignment between certain characteristics of transactions and governance structures matter in terms of efficiency and performance?* With this research question we built on research called ‘second generation TCE research’. This line of research addresses the issue of the relationships between aligning transactions and governance structures leading to a transaction cost economizing result and the theoretical assumption that this yields a better performance. It needs to be emphasized that these relationships are assumed in TCE, but their existence has not been established directly. Following the relatively small number of preceding studies in second generation TCE, we made an attempt at directly testing these relationships. The empirical study conducted to address this issue is a case study. Although the current dominant form of testing in TCE follows the lines of formal statistical testing – in public as well as private sector TCE studies – transaction cost economic theory itself in its early stage evolved on the basis of case studies in the private sector. These case studies enabled Williamson and others to conduct econometric research. In public sector studies, case studies to gain insight into the mechanisms and specific character of the public sector are rare. The consequence is that public sector characteristics are also neglected in econometric analyses. With our case study we aim to contribute to filling this gap. The case study method also offers a research strategy to assess whether or not alignment indeed matters. To that end it is important to study comparatively a variety of governance structures concerning one type of transaction. If the attributes of the transaction

do not remain invariant when governance structures are varied, the transaction costs involved become basically meaningless (Dow, 1987). It has been proven not to be easy to find public services that actually meet these requirements. After considering a wide range of options, ultimately household waste collection has been selected as a suitable case. Household waste collection is a relatively homogeneous public service compared to other public services. This is especially the case in larger municipalities with a high urbanization degree. A further favourable factor is that strongly urbanized municipalities use a variation of governance structures to provide the public service, which makes comparison a rewarding enterprise.

We selected eight municipalities with an urbanization degree of 2. Three of them provided household waste collection in a municipal service, two municipalities contracted out to a private firm and the other three municipalities organized household waste collection in a public company of which they are one of the shareholders. First, we argued that the transaction concerning the provision of household waste collection can be characterized by mixed specific investments, a moderate to high level of uncertainty and a high frequency. Next, on the basis of our predictions on alignment, we concluded that the modes ‘municipal service’ and ‘contracting out’ are both aligned modes of governance, while the mode ‘public company’ is a misaligned mode of governance regarding the transaction of household waste collection.

We have addressed the question of whether alignment matters with the use of two propositions formulated in transaction cost economic theory regarding the discriminating alignment hypothesis. The *first proposition* is a prediction to the effect that agreement between transactions and governance structures will lead to a transaction cost economizing result. The *second proposition* is a prediction to the effect that such a transaction cost economizing result will lead to a better overall performance. These two predictions are the core of the empirical study. To test them we analysed the transaction cost economizing result and the performance of the transaction regarding the provision of household waste collection under alternative modes of governance. In analysing the transaction cost economizing result we focused on two types of transaction costs, *direct costs* and *costs of friction*. Direct costs are the costs of mitigating the contractual hazards of asset specificity, environmental uncertainty and behavioural uncertainty. Costs of friction are the costs of failures in mitigating these contractual hazards. By focusing on direct costs, as well as costs of friction, we heeded Williamson’s warning that ‘our understanding of complex economic organization awaits more concerted study of the sources and mitigation of friction’ (Williamson, 1996, p. 87). As Langlois observes, although Williamson uses the term ‘friction’ frequently, he does not analyse it empirically (Langlois, 2006). To assess the relative levels and types of transaction costs, we made use of the work

of Commons (1924) which formed an important inspiration for Williamson's work. We studied direct costs and costs of frictions with the aid of Commons' concept of *working rules*. The working rules of a governance structure constitute, so to say, the legislation its participants must observe in dealing with each other and with others. Working rules determine the rights, duties and liberties of participants and the extent to which the rights of third parties need to be respected. They form the constraints that determine the interaction between actors in a governance structure. By studying the working rules underlying governance structures we are, to a certain extent, able to analyse the direct costs of governance structures that are chosen by municipalities since these rules tell us how activities take place. We analyse not only duties and rights (which is necessary (Walsh (1995) and Dow (1987))), but not sufficient), but also how they are dealt with and what the ex post effects are on the contracting parties and their relationship. Costly frictions are produced when the working rules of the governance structure fail to mitigate the hazards of asset specificity and environmental and behavioural uncertainty attached to a particular public sector transaction. To assess the relative level of direct costs as well as costs of frictions, we identified and compared all legal relationships or working rules in the different governance structures, on the basis of interviews with key persons and analyses of documents such as Organization Ordinances, Service Level Agreements, Specifications and Shareholders Agreements. Furthermore, we gained insight into the frictions that are produced in the different governance structures by analysing social practices on the basis of interviews with key persons. Our findings regarding the first proposition are that the level of transaction costs attached to the mode 'public company' is highest, followed by the modes 'contracting out' and 'municipal service'. With municipal services and contracting out having the lowest relative level of transactions costs, our case study confirms the prediction that agreement between transactions and governance structures will lead to a transaction cost economizing result, while misalignment leads to a higher level of transaction costs.

Regarding the performance of the different modes of governance, we made use of secondary data using the benchmark of SenterNovem, an agency of the Dutch Ministry of Economic Affairs. In our analysis, we focused on three performance indicators of the benchmark of SenterNovem, namely total costs of waste management, collection costs of residual and organic waste and the quality of service delivery. With regard to waste management costs, the first indicator would have been enough, had not the waste collection models of the various municipalities differed significantly. The differences in total waste management costs can, therefore, at least partly be explained by the differences in collection methods. Furthermore, disposal of waste, which is a part of the total costs of waste management, is not a part of the transaction that is studied in this research,

because it is organized in a way that stands apart from the collection of waste. With the latter and the importance of homogeneity of the transaction in mind, we choose to add to the analysis the second indicator of costs of collecting residual and organic waste as a way of controlling for these differences. Based on our case study, our findings are that the second proposition is partly confirmed. The aligned mode of governance ‘contracting out’ leads to a relatively high performance, while the aligned mode ‘municipal service’ shows mixed results. These mixed results can partly be explained by the small size of one of the municipalities. Compared to the two aligned modes of governance, the mode ‘public company’ shows a relatively lower level of performance. In conclusion, misalignment leads to a lower level of performance in terms of waste management costs and collection costs. With our results regarding the two propositions, we show that alignment between public sector transactions and governance structures matters, at least with regard to one type of transaction.

8.1.3 TCE’s contribution to public sector governance

The foregoing leads to an overall conclusion that offers an answer to the central research question. This question was earlier formulated as follows: *What can the discriminating alignment hypothesis, the core of Transaction Cost Economics, contribute to comparative assessments of the efficiency and performance of governance structures at the local public level?* Above all, our study has shown that TCE can indeed be applied to the public local level. When (i) the attribute of uncertainty is redefined and given a more prominent role, and (ii) the classical spectrum of private governance structures is reorganized to meet the requirements set by the public sector, the discriminating alignment hypothesis can be applied to the local level in the public sphere. At least with regard to the public service of household waste collection, it shows to be of relevance in determining the efficiency and performance of local governance structures. The case study showed the usefulness and appropriateness of the proposed theoretical framework. With regard to the provision of public services *in general*, a case study is insufficient to determine the value of TCE. However, it provides at least suggestive leads concerning the governance of the provision of other public services. Important elements that need to be taken into account when choosing a governance structure for the provision of a particular public service are the specific investments required, the environmental and behavioural uncertainty it is subject to, and the frequency of its provision. Whether alignment really matters in the context of other public services can however not be determined on the basis of our outcomes. The fact that this study, like other studies mentioned above, underlines the relevance of alignment between transactions and governance structures in the public sector, inspires confidence. With the results of studies on railways (Yvrande-Billon and Ménard, 2005),

water delivery (Ménard and Saussier, 2002) and now of our study on household waste collection the evidence is growing. Replication is, however, required to find further confirmation. To that end it is important to make a thorough analysis of the *attributes* of the transaction or of the manner in which a particular public service is being provided. Our own analysis has produced a set of attributes that must be taken into account with regard to public services and has shown the steps necessary for an in-depth analysis of transaction costs. Finally, it provides a theoretical extension which can be used in econometric analysis as the dominant form of testing at present in TCE.

8.2 Theoretical implications

In this study we extended TCE theoretically so it could cover the public sector as well. As stated in the introductory chapter, this is not only relevant from the point of view of public sector analysis, but also from the point of view of TCE in general. Recall here Weingast and Marshall's view that 'developing a general theory of organizations requires effectively applying this theory of organizations to types of organizations beyond those included in the set studied to generate it' (1988, p. 136). Given Williamson's conviction that any problem that can be framed as a contracting problem can be usefully examined through the lens of TCE, the possibility of application to public sector organizations is an essential step in further developing the theory. Evidence that TCE can indeed be used to analyse *make-or-buy decisions* of local governments, will support Williamson's view on the general applicability of TCE.

In our extension of TCE, we have emphasized the attribute of uncertainty. TCE, as it was originally developed, tends to concentrate on the attribute of asset specificity while often neglecting the attribute of uncertainty. One reason for this neglect is the fact that uncertainty is difficult to operationalize and, therefore, hard to be employed in econometric tests. With the aid of public administration literature we have been able to bring the attribute of uncertainty more to the foreground than is usually done in TCE. We distinguished between environmental and behavioural uncertainty, a distinction often made, but essentially not elaborated in TCE. With these attributes, we have been able to incorporate the distinctive characteristics of the public sector, without abandoning the main line of reasoning of TCE. Actually, the way in which we defined uncertainty can to some extent also be used in the private sector. Especially, the element of service measurability, an element of the measurement branch of TCE, is shown to be of importance in the governance branch of TCE. It was Williamson himself who has made a case for such an integrated treatment of governance and measurement (Williamson, 1996).

A final theoretical implication which deserves to be discussed here is so-called *second*

generation TCE research (Yvrande-Billon and Saussier, 2005), to which our study purports to make a contribution. It addresses the issue of the critical relationships between aligning transactions and governance structures leading to a transaction cost economizing result and yielding a better performance. Most empirical studies do not pay attention to these predictions but try to explain choices for particular governance structures that have actually been made. These studies show that choices correspond to what theory predicts and infer from this that these choices are by definition efficient. However, they rarely provide hard supportive evidence to this conclusion by showing on other hand, how much is lost by choosing misaligned institutional arrangements instead of aligned institutional arrangements. TCE, therefore, is in need of supplemental evidence to the assumption that aligning transactions and governance structures leads to a transaction cost economizing result and a better performance. Second generation TCE research attempts to provide this supplemental evidence by connecting observed *misalignment* – identified on the basis of the theory’s predictions – with observed transaction costs and performances. These studies are still limited in number and scope, but they suggest that modes of governance indeed have significant impacts on efficiency and performance, and that alignment matters. With our study we attempt to add to this line of research in two ways. Firstly, we broadened the scope of this line of research by analysing a hitherto unexplored type of public service, the provision of household waste collection. Secondly, in addition to comparing performance, we made an attempt to measure transaction costs directly under alternative modes of governance.

8.3 Measuring transaction costs

To test the discriminating alignment hypothesis directly instead of using reduced form analyses, we have made an attempt at measuring transaction costs. This is admittedly problematic, as has also been observed by other researchers. Actually this difficulty is the main reason why, until now, mostly indirect tests using reduced form analyses have been carried out. Costs of transacting are difficult to measure. Many hazards of exchange are either implicit or latent, while manifest hazards are often difficult to quantify. In addition, attempts to compare the costs of transacting face a basic selection problem: transaction costs attached to governance structures that have not actually been chosen cannot be established directly. In fact, stronger tests of the theory, and estimation of the actual governance costs, are possible only if the selection problem is solved (Masten et al., 1991). Solving it is possible when we obtain data for the costs of governance structures that are chosen (Masten et al., 1991). Our study is an example of how this problem can be addressed. The Dutch local government level provides a rich

spectrum of modes of actual governance for one type of transaction. Municipalities, in general, have the same specifically defined responsibilities and obligations in providing public services. The comparability of the institutional environment and the transaction is, therefore, high.

We have obtained data for the costs of governance structures that are chosen. To that end we have made a qualitative analysis of the working rules governing different governance structures and the frictions occurring in them. We distinguished between four levels of transaction costs: none, low, average and high. Relating these transaction costs to the attributes of the public sector transaction has provided a method to determine the relative level of transaction costs and the types to which these costs belong. This comparative strategy of measuring transaction costs gave us additional information on what types of costs are most important. On the basis of this information we acquired further information on what attributes of the typical transaction are most problematic in the different governance structures distinguished.

A problem with this comparative method, and actually with TCE is that the transaction under analysis has to remain invariant under alternative governance structures. Such transactions are not abundantly available. Even the transaction selected in this study, which we initially estimated relatively invariant, appeared in the course of the case study to show substantial differences between municipalities. In our view, the observed differences were not so large as to be of influence on the level of transaction costs, but they did play a role in the comparison of performances. The municipalities were shown to have different waste collection models, especially in terms of differing grades of intensiveness of service delivery. These differences are quantified in an indicator of the benchmark of SenterNovem. Using this indicator, we have been able to control the differences occurring. Furthermore, we have used the indicator of collection costs of residual and organic waste to measure the performance of an almost invariant part of the totality of waste management. With regard to this public service we have been able to determine to what extent transactions differ. The question then is whether this is also possible concerning other public services.

In comparing transaction costs we have emphasized the distinction between direct costs and the costs of friction. Costs of frictions are even more difficult to determine than direct costs. They have been determined by us on the basis of interviews with key persons. Although conclusions on such a basis have to be treated with care given the subjective elements attached to the method combined with an inherent lack of precision, to our knowledge measuring these types of costs has not been done before. In that respect, this should be viewed as a first step.

8.4 Misalignment

Our analysis of transaction costs and performance has led to the conclusion that public companies are misaligned governance structures in the case of household waste collection. This misalignment indeed leads to a lower level of performance and a higher level of transaction costs as TCE predicts. What does this mean for the governance structure of public companies and for the provision of public services in general? We have already touched upon this issue in a previous section (see Section 8.1.3), but shall pay attention to this issue more in-depth here.

First, it is important to note here that instances of alignment and misalignment are determined on the basis of our characterization of transactions and governance structures. With regard to the characterization of the transaction, we used the interviews of our case study as an opportunity to ask respondents to rank waste collection. In this way, we were able to go in-depth into the ranking of waste collection. Asking respondents to rank service characteristics is a common method, since it is difficult to assemble other useful measures of service characteristics (Levin and Tadelis, 2005). Other researchers, however, make use of surveys in which respondents have to rate a public service and average the ratings across respondents to create the service characteristics. With our relatively small number of respondents we had to be more cautious and, therefore, had to rely also on our own interpretation. By paying extra attention to the operationalization of the attributes of the transaction and using broad classes, such as high, moderate and low, we partly addressed the problem, but it remained difficult to rank the attributes as objectively as possible. This is an important limitation, since other interpretations of service characteristics may lead to other defensible predictions on alignment and misalignment.

This study does not support the conclusion that the misaligned mode ‘public company’ would in all cases be unsuitable in the public sector. However, if a specific transaction exhibits the attributes that also characterize the provision of household waste collection, public companies may be expected to be relatively less efficient and be less performing than forms of contracting out to a private company and municipal services. In that case, municipalities are advised to choose pure modes of governance at the extremes of the public sector spectrum rather than hybrid modes of governance which combine elements of the two extremes. Particularly striking is the finding that uncertainty, especially environmental uncertainty, plays such an important role. It is our expectation that this overwhelming importance of the attribute of uncertainty is not restricted to the public service of local waste collection but can be established with regard to many public services. If even a rather straightforward public service such as household waste collection is surrounded by a considerable measure of uncertainty, we expect a multitude of transactions concerning the provision of other public services to be even far more uncer-

tain. This raises the fundamental question whether hybrid modes of governance, such as public companies, are, from a transaction cost economizing perspective actually suitable modes of governance for the provision of public services. Hybrid modes of governance include, more often than not, more than two parties as partners to the contracting relationship. The resulting multi-partite relationships make it relatively expensive to adapt to changing circumstances. In terms of direct costs the consequence is a higher cost level owing to the need for more consultation, coordination and negotiation. In terms of costs of frictions the hazards of maladaptation are considerably increased.

What are the implications for waste collection as it is organized at present in the Netherlands? Recently, SenterNovem has repeated the proposition that no relation exists between the way in which the provision of waste collection is organized and the costs involved. It draws this conclusion from a general survey of the waste management costs of municipalities in the Netherlands. Our own analysis is, albeit more limited in scope, much more detailed. It shows clearly that SenterNovem's position is highly contested. The data collected by SenterNovem shows that in the past many municipalities have chosen in favour of the governance mode of public companies. The reasons for opting for this mode of governance are different, but they appear to be inspired by a desire to guarantee a larger say in the provision of waste collection than seems to be possible with contracting out to a private firm. Furthermore, an important role was played by expectations of benefits, that having a company at arm's length would be advantageous. This study shows that the extent of the control over a public company is less than seems to be expected by municipalities. In contracting out to private companies, municipalities have shown to be much more aware of the necessity of concluding a contract that is as complete as possible and to develop accompanying enforcement procedures. Municipalities with a public company are increasingly coming to realize that they must adopt the same attitude vis-a-vis public companies, because over time the latter tend to view themselves as autonomous companies in which the municipalities as merely shareholders only have a restricted say. Under all conditions, municipalities have to keep their role as principal and must therefore retain sufficient knowledge of waste collection regardless of the governance mode chosen. This seems to be the reason why all observed municipalities employ more municipal officials to exercise due control. In the past, this has not always been the case. Municipalities have learnt that they need to keep knowledge in-house and that they have to take their role as principal in managing the contracting relationship and in policymaking seriously.

8.5 Directions for further research

In this final chapter we already discussed some directions for further research. Here, we pay attention to two other issues that deserve special attention. First, original TCE makes use of a compact way of classifying transactions and governance structures. This is an important requisite in formulating predictions on alignment and misalignment. In our study, we followed the same reasoning as Williamson followed in original TCE and distinguished between three broad modes of public governance, to wit ‘contracting out’, ‘public company’ and ‘municipal service’. In practice, the spectrum of public governance structures is, however, much more multiform. A challenge in further research is to extend TCE to be able also to capture these differentiations.

Secondly, this study points out that the attribute of uncertainty, and specifically, the attribute of environmental uncertainty, is important in finding a solution for the problem of aligning transactions and governance structures in the public sector. It is highly probable that governments cannot afford to enter into multi-partite relationships, which make it relatively expensive to adapt to changing circumstances. While private sector analyses of alignment often pay little specific attention to the attribute of uncertainty, it is required that public sector analyses pay extensive and operational attention to this attribute. In this, the special nature of the provision of public services comes to expression. Further research should be dedicated to a generalization of results such as those of our study to a broader array of public services.

Conclusions and Reflection

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Appendix A: List of Respondents

Respondents interviewed during the empirical research, listed by reference number, case, organization and function.

Number	Case	Organization	Function
1	Limedale	Department waste management	head of department
2	Myrtlefield	Department city maintenance	team manager
3	Myrtlefield	Department city maintenance	head of department
4	Denimborough	Department city maintenance	policy advisor
5	Denimborough	Department city maintenance	policy advisor
7	Denimborough	Private Company	manager public services
6	Denimborough	Private Company	operational manager
8	Indigoford	Department city maintenance	policy advisor and supervisor
9	Indigoford	Department city maintenance	policy advisor
10	Indigoford	Private company	account manager
11	Indigoford	Private company	manager public services
12	Crimsonbridge	Sector municipal works	project manager waste management
13	Crimsonbridge	Public company	manager operations
14	Carminecastle	Dept. city maintenance and development	coordinator waste management
15	Carminecastle	Dept. city maintenance and development	coordinator waste management
16	Carminecastle	Public company	director
17	Scarletcity	Dept. city development maintenance	account manager en policy advisor
18	Scarletcity	Concern staff	head of legal department
19	Scarletcity	Public company	director
20	Olivetown	Dept. waste and cleansing management	head of department
21	-	Association for Refuse and Cleansing Management	manager
22	-	Municipality	project manager waste management

Appendix B: Questionnaire

Each interview started with a brief introduction to the topic of the research and the issues to be addressed during the interview.

Questions related to the working rules of the governance structure

Questions asked to key persons of municipalities

- How is the provision of household waste collection organized in this municipality?
- Can you describe the key persons in this mode of governance, the relationships between them, and their rights and duties?
- Do such descriptions exist in written form? In which documents can they be found?
- For how long has this particular mode of governance existed?
- Why was this particular mode of governance chosen in this municipality?
- How many municipal officials are charged with waste management? What are their tasks and activities? How much time do they spend on these activities?
- What do you think of the number of staff that is charged with waste management?
- To what extent does the municipal council play a role in the collection of household waste?

Questions asked to key persons of public or private companies

- Can you describe how this company is organized?
- How does this company manage the relationship with the different municipalities? How does it take into account their wishes and the public interests they have to guarantee?
- *In case of a public company, in addition, the following question was asked:* How does the public company manage the different relationships with the municipality as a principal and as a shareholder?

- How much freedom does the company have within the constraints of the Shareholders Agreements, the SLA or the Specification?

Questions asked to all key persons

- In your opinion, what are the advantages and disadvantages of this mode of governance?
- Can you describe the degree of flexibility of this mode of governance, or more specifically, of the relationships between the key persons? To what extent are they able to adjust to changing circumstances?
- Can you describe whether relationships are formal or informal? By relationships we mean the those between the waste department and municipal executive and/or between the municipality and the public/private company.
- Can you explain how consultation between the different parties is organized, how often meetings take place, and at what level?
- How do the parties reach agreements and how do negotiations take place?
- In case disputes occur, how do parties handle them?
- How are performances monitored and measured? To what degree are performance criteria formulated explicitly and clearly? In what way is monitoring organized?
- Which incentives does the municipality have that can stimulate the company or the department to perform well?
- To what degree is it possible to renegotiate agreements?

Benchmark SenterNovem *Questions related to the results of the municipality on the performance indicators of the benchmark of SenterNovem, to wit costs of waste management and service delivery package.*

- Can you please give your interpretation of the results?
- Can you elaborate (more) on your opinion? Do you have any comments on these results?

The public service of household waste collection

- Can you describe how the execution of waste collection takes place, how often different types of waste are collected, what the infrastructure looks like and what kind of vehicles, containers, etc. the municipality uses?

-
- Which public interests are, in your opinion, attached to the collection of household waste?
 - In what way does this municipality handle complaints of residents?
 - Are all necessary investments actually made?
 - What is included in the waste management charge? Does this municipality cover all costs of waste management with the waste management charge?
 - What do you expect of the future regarding the collection of household waste and the organization form that this municipality currently has?

Characterization of household waste collection

○ Can you please assess the following characteristics of household waste collection, in terms of low, average or high:

- **The degree of specialized investments** required to carry out the task of household waste collection. By special investments, we mean investments that apply to the collection of household waste but are very difficult to apply to other services. One can think of the extent to which this function requires personnel with extensive knowledge and skills. And the extent to which this requires specialized physical objects.
- **The degree of service measurability.** By service measurability, we mean whether it is relatively straightforward to monitor the activities required to deliver the service and to identify performance measures, whether it is easy to write a contract and specify the activities and outcomes that have to be performed and achieved, and whether it requires relatively little effort to monitor the quality and quantity of these activities and their outcomes.
- **The sensitivity of residents to the quality of household waste collection.**
- **The sensitivity of local authorities and politicians to the quality of household waste collection and to complaints of residents.**
- **The sensitivity to changes in policy and technology.**

Each interview ended with the question whether or not we were allowed to have access to the relevant documents. In addition, we asked for an introduction to other key persons of the particular governance structure.

Nederlandse Samenvatting

Het onderzoek waarvan we in dit boek verslag doen, is in hoge mate geïnspireerd door een artikel van Oliver Williamson getiteld *Public and Private Bureaucracies* uit 1999. In dit artikel stelt Williamson dat de transactiekostenbenadering, die oorspronkelijk ontwikkeld is voor de analyse van commerciële transacties, ook gebruikt kan worden in analyses van publieke sector transacties. Deze benadering, zo stelt hij, kan immers elk probleem aan dat kan worden geformuleerd als een probleem van contracteren en dat gaat dus ook op voor problemen betreffende keuzes die overheden maken ten aanzien van de organisatie van overheidstaken. Ter onderbouwing van zijn stellingname laat hij zien dat de transactiekostenbenadering inzicht kan bieden in de vraag waarom de buitenlandse zaken van een staat door een overheidsdienst worden behartigd en niet door een privaat bedrijf. Hoewel zijn keuze voor buitenlandse zaken – een extreme casus – een interessante is, draagt het artikel uiteindelijk weinig bij aan een daadwerkelijke uitbreiding van de transactiekostenbenadering. Voor zover wij weten is Williamson niet verder gegaan op de ingeslagen weg. Het artikel heeft ons echter geïnspireerd om dat wel te doen. Het perspectief dat de transactiekostenbenadering biedt is in onze ogen met name relevant in het licht van de grote veranderingen die de Nederlandse publieke sector in de afgelopen decennia heeft ondergaan (Hoofdstuk 1). Deze veranderingen vallen niet onder één noemer te schikken, maar zij hebben allemaal wel op een of andere wijze te maken met de vraag hoe publieke taken efficiënter kunnen worden uitgevoerd. De roep om meer efficiëntie is een reactie op de opvatting dat de publieke sector te omvangrijk en te duur dreigt te worden. Nadat was gebleken dat een oplossing daarvoor niet langer alleen in bezuinigingen kon worden gevonden, werd de stap gezet naar privatisering, marktwerking en verzelfstandiging in allerlei sectoren. Veranderingen die te karakteriseren zijn als een beweging van *government* naar *governance*. De vraag rijst echter of deze institutionele veranderingen feitelijk ook leiden tot meer efficiëntie en of met deze veranderingen het publieke belang nog wel voldoende gewaarborgd is. Deze vragen spelen op nationaal niveau rond onder andere de verzelfstandiging van de NS, de liberalisering van de energiesector en de marktwerking in de zorg, maar ook op lokaal niveau, waarbij te denken valt aan de recente invoering van marktwerking bij de reïntegratie

van arbeidsongeschikten, de aanbesteding in de thuiszorg en (al van eerdere datum) de veranderingen in de inzameling van huishoudelijk afval.

Voortbouwend op Williamsons artikel analyseren wij in dit boek deze ontwikkelingen van *government* naar *governance* vanuit de transactiekostenbenadering. Vanuit deze benadering is een grote bijdrage geleverd aan de uitwerking van het begrip *governance*, zowel in de private als de publieke sfeer. De transactiekostenbenadering vat *governance* op als het organiseren van economische transacties met het oog op een minimalisering van transactiekosten (Hoofdstuk 2). Zij baseert zich op een comparatieve institutionele analyse van vormen van *governance* die reëel voorkomen in de praktijk. De transactie is daarbij de basiseenheid van analyse. De transactiekostenbenadering is oorspronkelijk door Williamson ontwikkeld voor de analyse van commerciële transacties. Centraal staat de *discriminating alignment hypothesis*, die stelt dat transacties met specifieke kenmerken en *governance structures* met specifieke kenmerken in overeenstemming met elkaar worden gebracht om de transactiekosten te minimaliseren. Deze hypothese wordt door hem toegepast op *make-or-buy* beslissingen van ondernemers in de private sector. Een voorbeeld van een *make-or-buy* beslissing is de keuze van een ondernemer om onderdelen van een auto zelf te produceren dan wel deze elders te laten produceren en vervolgens van de producent te kopen. In de publieke sector zien wij vergelijkbare keuzes bij nationale en lokale overheden. Zij maken dikwijls een keuze om publieke taken zelf uit te voeren dan wel de uitvoering van deze taken uit te besteden aan een andere organisatie. Deze vergelijkbaarheid rechtvaardigt het dat wij in deze studie de transactiekostenbenadering op de publieke sector toepassen. Centraal daarbij staat de vraag welke bijdrage de *discriminating alignment hypothesis* kan leveren aan de beoordeling van de efficiëntie en prestaties van verschillende *governance structures* op het niveau van de lokale overheid. Dit is geen sinecure, omdat het transactieconcept niet zomaar vertaald kan worden naar de publieke sector.

Niet alleen Williamson, maar ook anderen, hebben de relevantie van de transactiekostenbenadering voor analyse in de publieke sector onderzocht. Wij onderscheiden twee lijnen in de wetenschappelijke literatuur, de transactiekostenliteratuur en de bestuurskundige literatuur (Hoofdstuk 3). Deze twee lijnen hebben zich over het algemeen onafhankelijk van elkaar ontwikkeld – een fenomeen dat zich vaker voordoet in de nieuw institutionele economie tengevolge van haar multidisciplinaire karakter. Beide bieden belangwekkende aanknopingspunten voor toepassing van de transactiekostenbenadering in de publieke sector. De transactiekostenliteratuur kenmerkt zich door een onmiddellijke toepassing van de klassieke private transactiekostenbenadering op de publieke sector zonder dat er in het algemeen veel oog is voor de specifieke kenmerken van die sector. De bestuurskundige literatuur daarentegen kenmerkt zich door een min-

der orthodoxe toepassing van de transactiekostenbenadering waaruit meer oog voor de specifieke kenmerken van de publieke sector blijkt. Zoals gezegd, leveren beide stromen belangwekkende aanknopingspunten. Beide leiden echter uiteindelijk toch niet tot een toepassing van de transactiekostenbenadering op de publieke sector die systematisch en voldoende uitgewerkt kan worden genoemd. De aanknopingspunten die deze literatuur biedt zijn echter voldoende veelbelovend om met behulp daarvan zelf de overstap naar de publieke sector te maken.

In onze uitbreiding van de transactiekostenbenadering richten wij ons op *make-or-buy* beslissingen van lokale overheden (Hoofdstuk 4). Het is daarbij belangrijk om vast te stellen waar transacties in dat geval precies om gaan, hoe deze kunnen worden gekarakteriseerd en welke *governance structures* kunnen worden onderscheiden. Publieke sector transacties betreffen de relatie tussen de overheid als dienstverlener aan de ene zijde en een organisatie als producent van de dienst aan de andere zijde. In sommige gevallen vallen deze zijden samen, zoals in het geval waarin een gemeentelijke organisatie-eenheid de verleende dienst produceert. In andere gevallen vallen deze zijden niet samen, zoals in het geval van uitbesteding aan een privaat bedrijf of een overheidsvennootschap. De inhoud van publieke sector transacties betreft aan de ene zijde het recht om een dienst te produceren tegen een bepaalde prijs en aan de andere zijde de plicht zorg te dragen voor de levering van die dienst aan burgers op een zodanige wijze dat het publieke belang adequaat wordt beschermd. Een dergelijke relatie wordt wel ten behoeve van de burger aangegaan, maar de burger is zelf geen partner in de relatie tussen de overheid en de betreffende organisatie. Wel heeft de burger invloed op de relatie. Deze invloed werkt door op de kenmerken van publieke sector transacties. Op basis van de specifieke kenmerken van de publieke sector die in de twee eerder besproken lijnen in de literatuur naar voren worden gebracht, komen wij tot de conclusie dat in de publieke sector principieel dezelfde kenmerken kunnen worden gehanteerd als in de private sector, maar dat een bijgestelde definitie van die kenmerken noodzakelijk is. Ook in de publieke sector hanteren wij als kenmerken van de transactie specifieke investeringen, onzekerheid en frequentie. Met name onzekerheid, een kenmerk dat vaak geheel niet in beschouwing wordt genomen dan wel wordt verwaarloosd in analyses van de private sector, is van belang in de publieke sector. Wij werken dit kenmerk dan ook verder uit. Daarbij maken wij een onderscheid op basis van de literatuur tussen onzekerheid over gedrag en onzekerheid over de omgeving. Onzekerheid over de omgeving specificeren wij in termen van politieke gevoeligheid en onzekerheid over technologische veranderingen en beleidsveranderingen op nationaal niveau; onzekerheid over gedrag van partijen relateren wij aan de meetbaarheid van de verlening van een dienst. Op basis van publieke *governance structures* die zich in de praktijk in

Nederland op lokaal niveau voordoen, ontwikkelen wij een spectrum van publieke sector *governance structures* waarbij het ene uiteinde wordt gevormd door uitbesteding aan een private partij, het andere uiteinde door de gemeentelijke organisatie-eenheid, met als tussenvorm externe verzelfstandiging, welke weer subvarianten kent, te weten, de overheidsvennootschap en de gemeenschappelijke regeling. In deze tussenvorm wijken wij af van Williamsons spectrum van publieke sector *governance structures*, aangezien dit ten aanzien van deze vorm teveel is toegesneden op de eigenheden van de Amerikaanse publieke sector. De *governance structures* verschillen in de manieren waarop aanpassing aan veranderende omstandigheden plaatsvindt – autonoom of via coördinatie – en in de mate van bescherming die wordt gegeven. Vervolgens leiden wij, analoog aan de in de private sector gevolgde redeneringen, verwachtingen af over *alignment* tussen publieke sector *governance structures* en publieke sector transacties. Daarbij richten wij ons alleen op de kenmerken van onzekerheid en specifieke investeringen. In de meeste gevallen is de transactiefrequentie steeds hoog, omdat de overheid continu de zorg draagt voor de levering van publieke diensten. De voornoemde andere kenmerken worden daarom bepalend. Transacties met een geringe mate tot geen onzekerheid en lage specifieke investeringen hebben weinig bescherming nodig. Dit betekent dat uitbesteding aan een privaat bedrijf de meest geschikte *governance structure* is. Transacties waarbij het niveau van specifieke investeringen hoger is, vereisen meer bescherming. Deze bescherming is in zekere mate verzekerd bij de overheidsvennootschap en in nog sterkere mate bij de gemeentelijke organisatie-eenheid. Als transacties gekenmerkt zijn door een gemiddeld niveau van onzekerheid, is uitbesteding het meest efficiënt bij lage tot gemiddelde specifieke investeringen. De verwachte kosten van onderhandelingen over aanpassingen als gevolg van onzekerheid zijn minder hoog dan bij overheidsvennootschappen waarin meerdere partners betrokken zijn, terwijl de mate van bescherming niet het hoge niveau behoeft te hebben dat gemeentelijke organisatie-eenheden bieden. Transacties die worden uitgevoerd onder hoge onzekerheid en/of hoge specifieke investeringen vereisen een aanpassingsvermogen en bescherming die worden geboden door een gemeentelijke organisatie-eenheid.

De vraag die wij ons vervolgens in navolging van anderen stellen, is wat de veronderstellingen over *alignment* betekenen. In de transactiekostenbenadering wordt aangenomen dat naar *alignment* wordt gestreefd om een hogere efficiëntie in termen van transactiekosten te bereiken. In de meeste onderzoeken naar commerciële transacties wordt dan ook volstaan met de vaststelling dat de keuze voor bepaalde *governance structures* overeenkomt met verwachtingen uit de theorie en op basis daarvan afgeleid dat die keuzes efficiënt zijn. De vraag is of dat ook zo is. Deze vraag is temeer relevant, daar in de publieke sector andere argumenten kunnen spelen om een bepaalde *governance*

structure te kiezen. Historische redenen en politieke argumenten kunnen bijvoorbeeld een rol spelen. De consequentie is dat er een grote variatie aan vormen van *governance* in de publieke sector bestaat. Volgens de theorie omvat deze zowel *aligned* als *misaligned* vormen van *governance*. Deze *misaligned* vormen van *governance* leiden volgens de transactiekostenbenadering tot een inefficiënt resultaat in termen van transactiekosten. De vraag of dit ook daadwerkelijk zo is, staat centraal in het zogeheten ‘tweede generatie onderzoek’ binnen de transactiekostenbenadering. Binnen deze lijn van onderzoek is een aantal aanzetten tot beantwoording van deze vraag gemaakt. Wij trachten met dit onderzoek een bijdrage aan deze onderzoekslijn te leveren door een vergelijkend kwalitatief onderzoek te doen naar de transactiekosten en prestaties van *governance structures* op lokaal niveau ten aanzien van één type transactie (Hoofdstuk 5). In dat verband toetsen wij een tweetal proposities. De eerste propositie is dat een overeenstemming tussen transacties en *governance structures* leidt tot een minimalisering van transactiekosten. De tweede propositie is dat een overeenstemming tussen transacties en *governance structures* leidt tot betere prestaties van *governance structures*. Wij analyseren ter toetsing van deze proposities de gemeentelijke overheidstaak ten aanzien van de inzameling van huishoudelijk afval. Deze overheidstaak blijft binnen sterk stedelijke gemeenten steeds vrijwel dezelfde, maar zij is desondanks in een aantal verschillende vormen van *governance* georganiseerd. Om het niveau van transactiekosten te bepalen en te vergelijken, brengen wij de ‘directe’ kosten en kosten van ‘fricties’ in kaart. Directe kosten zijn de kosten die worden gemaakt om de risico’s die verbonden zijn aan de verschillende kenmerken van de transactie te neutraliseren. Kosten van fricties zijn kosten die worden gemaakt, doordat een *governance structure* onvoldoende in staat is zulke risico’s te neutraliseren. Deze fricties zijn een steeds weer terugkerend begrip bij Williamson. Hij operationaliseert het echter minimaal. Voor onze eigen operationalisatie grijpen wij daarom terug op het werk van Commons, een belangrijke inspiratiebron van Williamson. Commons maakt inzichtelijk dat *working rules* de basis vormen van *governance structures* en dat deze *rules* bepalend zijn voor de vraag of fricties ontstaan. Met een analyse van *working rules* die de inhoud van *governance structures* aangeven, proberen wij zicht te krijgen op directe kosten en kosten van fricties. Om de prestaties van de *governance structures* te bepalen en te vergelijken, maken wij gebruik van de benchmark waarin prestaties van gemeenten op het gebied van afvalbeheer worden vergeleken. Deze benchmark wordt uitgevoerd door SenterNovem, een agentschap van het Ministerie van Economische Zaken.

Wij bezien de inzameling van huishoudelijk afval in 8 gemeenten. Wij kiezen hierbij voor veelal grote gemeenten van stedelijkheidsklasse 2. Drie gemeenten organiseren de huishoudelijke afvalinzameling in een gemeentelijke dienst, drie in een overheidsvennootschap en twee gemeenten besteden de afvalinzameling uit aan een privaat in-

zamelbedrijf. Van deze gemeenten brengen wij de *working rules* in kaart op basis van interviews met sleutelfiguren binnen de gemeenten en inzamelbedrijven, de overeenkomsten die zijn gesloten, de bestekken en organisatieverordeningen (Hoofdstuk 6). Het blijkt daarmee mogelijk de *working rules* te operationaliseren. Op basis van deze analyse komen wij tot de volgende bevindingen (Hoofdstuk 7). Wij beargumenteren allereerst dat de transactie betreffende de inzameling van huishoudelijk afval wordt gekarakteriseerd door een gemiddeld niveau van specifieke investeringen, een gemiddeld tot hoog niveau van onzekerheid en een hoge frequentie. Op basis van de theoretische veronderstellingen over *alignment* concluderen wij dat huishoudelijke afvalinzameling het beste kan worden georganiseerd in een gemeentelijke dienst of via een uitbesteding aan een privaat bedrijf. De overheidsvennootschap is daarmee op basis van de theorie de *misaligned* vorm van *governance*. Wij confronteren deze veronderstellingen over *alignment* met onze bevindingen over de hoogte van de transactiekosten in de verschillende *governance structures* en de prestaties daarvan. Deze confrontatie leidt tot de conclusie dat overheidsvennootschappen relatief de hoogste transactiekosten en relatief slechtere prestaties leveren. Uitbesteding aan private bedrijven en de instelling van gemeentelijke diensten leveren een vergelijkbaar lager niveau van transactiekosten op. Voor wat betreft de prestaties zijn de uitkomsten gemengd. Uitbesteding levert relatief lage afvalbeheerkosten op, terwijl gemeentelijke diensten een gemengd beeld laten zien. Dit is in hoge mate te verklaren door het feit dat één van de gemeenten relatief klein is. De omvang van een gemeente is mede bepalend voor de hoogte van de kosten. Voor de houdbaarheid van de proposities betekent een en ander het volgende. De eerste propositie wordt bevestigd. De *misaligned governance structure* gaat gepaard met relatief hoge transactiekosten. Ten aanzien van de tweede propositie kan worden gesteld dat de *misaligned mode of governance* gepaard gaat met de relatief hoogste afvalbeheerkosten, maar de *aligned modes of governance* laten zoals gezegd een gemengd beeld zien. Deze propositie wordt daarom slechts gedeeltelijk bevestigd.

Wat betekenen deze bevindingen nu in relatie tot de centrale vraag in dit onderzoek? Dit is de vraag naar de bijdrage van de *discriminating alignment hypothesis* aan een beoordeling van de efficiëntie en prestaties van lokale *governance structures* (Hoofdstuk 8). In deze studie laten wij zien dat deze hypothese zinvol kan worden vertaald en uitgebreid naar de publieke sector. De reden daarvoor is dat in de publieke sector soortgelijke *make-or-buy* beslissingen worden genomen als in de private sector. Wij laten ook zien hoe daar vervolgens in een concrete casus zinvol mee omgegaan kan worden. In de casus van de inzameling van huishoudelijk afval brengen de overheidsvennootschappen – *misaligned governance structures* – relatief hogere transactiekosten en lagere prestaties mee dan gemeentelijke diensten en uitbestedingen aan private bedrijven – de

aligned governance structures. De hypothese heeft daarom betekenis: *alignment matters*. Wij kunnen op basis van dit onderzoek vanzelfsprekend niet zomaar generaliseren naar andere overheidstaken. Wel levert dit onderzoek een relevante bijdrage aan bestaand onderzoek binnen het tweede generatie onderzoek van de transactiekostenbenadering. Daarin komt hetzelfde beeld dat *alignment matters* naar voren ten aanzien van onder andere de waterlevering in Frankrijk en de spoorwegen in Groot-Brittanië. Wij kijken daarbij in navolging van deze onderzoeken naar prestaties van verschillende *governance structures*, maar in aanvulling daarop ook naar de transactiekosten. Dit tezamen biedt voldoende aanknopingspunten om de implicaties van de *discriminating alignment hypothesis* ook ten aanzien van andere overheidstaken te verkennen in de verwachting dat de kans op vergelijkbare uitkomsten groot is. Al met al blijkt het uiterst nuttig te zijn om de kenmerken van de transactie in beschouwing te nemen bij voorspellingen over de efficiëntie van veranderingen van *government* naar *governance*. Met name de mate van onzekerheid waarmee een transactie omgeven is, is hierbij van eminent belang.

Curriculum Vitae

Marieke van Genugten was born in 's-Hertogenbosch, the Netherlands, on December 30, 1977. She attended VWO (pre-university education) at the Elzendaal College in Boxmeer from 1990 to 1996. After graduating, she was a student of Public Administration at the University of Twente. In 2002 she graduated with a thesis on the relevance of the work of Friedrich August Hayek for modern public administration. After graduation, she became a PhD student in the department of Administrative Law (later department of Legal and Economic Governance Studies) of the University of Twente, which culminated in this thesis. She is currently assistant professor in the department of Social Risks and Safety Studies of the School of Management and Governance at the University of Twente.

Abstract of The Art of Alignment: Transaction Cost Economics and the Provision of Public Services at the Local Level by Marieke van Genugten

This book is situated against the background of the debate on recent institutional changes in the public sector. These changes concern the privatization, liberalization and autonomization of different kinds of public services. The main incentives for introducing such new modes of governance were, and still are, expectations of efficiency improvements. Whether or not these, in fact, were realized is questioned, however.

Transaction Cost Economics (TCE) has been put forward as an approach to address this issue. Our study focuses on the question whether and in which form TCE, which was originally developed by Oliver Williamson to analyse commercial transactions, can be applied to institutional changes at the local government level in the Netherlands. More specifically, this study addresses the question what the discriminating alignment hypothesis - stating that transactions, which differ in their attributes, are aligned with governance structures, to effect a transaction cost economizing result - can contribute to comparative assessments of the efficiency and performance of governance structures at the local level.

To that end, this book studies the local public service of collecting household waste. Here, a number of institutional changes have resulted in a variety of modes of governance, i.e. contracting out to private companies, public companies, and municipal services. A comparative case study of eight municipalities with a high urbanization degree shows that with regard to this particular public service, alignment between governance structures and transactions matters. The misaligned mode 'public company' has the highest relative level of transaction costs, while the aligned modes 'municipal service' and 'contracting out' have a lower relative level of transaction costs. These findings are consistent with the theory.