

# Publieke netwerken : een theoretische en empirische analyse van het functioneren van overheidsinstellingen

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## Summary

In the Netherlands citizens are heavily taxed by the government. These revenues are used to realize a large number of objectives. To succeed in doing, this an impressive range of public institutions are operated. Consequently, the wealth of the country depends to a considerable degree on the extent that these public institutions perform well. In recent years, more and more people have questioned whether public institutions are performing well in the Netherlands. In this context particularly the bureaucratic procedures of a lot of public institutions are criticized. These pressures have caused a far-reaching reorganization of the Dutch welfare state. Expenditures are being cut. In the process, several public agencies have been privatized and new governance structures have been introduced in public agencies.

It is striking that these reorganization efforts are taking place in a haphazard, ad hoc way. The reason is that there is no generally accepted economic theory of public institutions. Microeconomic theory of the firm has focused particularly on modelling behavior of private enterprises. In public finance, as far as it is policy oriented, attention is especially directed at macroeconomic analysis instead of microeconomic analysis. When a microeconomic approach has been used in the theory of public finance, it has been applied almost exclusively to the study of the bureaus. Therefore, all kinds of important questions remain unanswered. For example, how should we continue. Should we go on privatizing? What should the limits of privatization be? What structural forms will work best in those organizations which remain in public sphere? In order to answer these questions, we must develop a clearer understanding of the conduct and performance of public institutions, and we must develop more effective strategies for assessing the performance of those institutions.

Because of this, as described in chapter 1, the purpose of this dissertation is to develop a theoretical framework by which the performance of public institutions can be better understood. Based on this framework, a second objective is to examine the performance of a public institution in reality. Therefore two central questions are analyzed.

1. How can the performance of public institutions in general be explained?
2. How can the performance of a specific public institution be determined?

The first of these questions, is addressed in the theoretical section of the (chapters 2 through 12). The second question is addressed in the empirical section of the dissertation (chapters 13 through 18). Together, these chapters clarify what public institutions try to achieve, contribute to an understanding of the organizational design and operation of public institutions, and offer a methodology for assessing the performance of public agencies.

In chapter 1 the general framework for the analysis of these questions is presented. First some basic concepts of performance in a production process are introduced. It is important to realize that performance refers not only to output or production, but also to activities within the production process and the outcomes. The crucial point is that we are not only interested in the efficiency but also in the degree of effectiveness of an institution. So it is essential for us to ask how public institutions function.

Chapter 1 then operationally defines public institutions as organizations (a) in which a government has a dominant influence and (b) which produce goods and services that

could conceivably be produced by private enterprises instead. A considerable part of the Dutch economy is made up of such organizations. Section 1.3.1 offers an analytical distinction between four different categories of public institutions. These are publicly oriented institutions, state-owned-enterprises, private corporations with dominant public influence and quasi autonomous public authorities (Quango's). However, it should be noted that these categories may entail some of the same institutions. For example, some public authorities are also private corporations like foundations and firms.

In part 2 of this dissertation a theoretical analysis of the performance of public institutions is made. This analysis indicates the factors which determine the performance of a public institution. Accordingly some subquestions are answered in chapters 2 through 11. First of all, these chapters examine why public institutions are established and why they do continue to operate. Following Richard Musgrave and in agreement with the approach by Dieter Bös, in answering these questions, three government functions are distinguished. These entail the function of allocation, of stabilization and of redistribution. Within this framework first the market failure approach is analyzed from a public choice perspective. The reasons for the government having predominant influence in this kind of organizations are further discussed. Finally, the interaction of the different functions of the government and the consequences of this interaction for the establishment of public enterprises are further delineated. Considering government objectives along with the costs of producing various goods and services make it possible to understand why governments sometimes directly supply goods and services, and at other times subsidize and regulate private firms supplying public goods. But many questions remain. To answer these questions we need a theoretical framework for analyzing the behavior and performance of public institutions.

In chapter 3 such a theory is therefore developed. The objective of this theory is to provide a general framework by which the performance of public institutions can be explained. As some public institutions like e.g. public enterprises have characteristics of both private enterprises and classic government agencies the theory necessarily has political, economic and organizational features. To develop a useful framework the industrial organization SCP-scheme is employed as a starting point for a theory of public institutions. However, additional complexities are introduced. This does e.g. not mean that simple one-way causal relations are assumed. On the contrary. A lot of factors are relevant and may also influence one another. A major conclusion of this section is that the main difference between private and public institutions lies in the conduct of those organizations.

Chapter 4 analyzes discrepancies between observable performance of public institutions and predictions made on the basis of welfare economics. In practice, public institutions do not behave according to normative theory. This seems partly true because governments find it impossible to develop an appropriate welfare function, and partly because of poor performance by public enterprises. This explains why normative pricing rules often are not used in practice. Of course, this does not mean that welfare economics is not an important movement in economics. It only acknowledges that welfare economics, understood as a normative theory, can not sufficiently explain performance of a public institution in practice. This forces us to ask how and by whom public sector objectives (and behavior) are determined. Are these objectives determined by the voters, the government, members of parliament or by managers of public institutions?

In chapter 5 it is examined whether the conduct and performance of public institutions can be explained by the preferences of the citizens. To explain the behavior and objectives of public institutions the influence of the political process is clearly important. Chapter 5 and

chapter 4 are obviously related. In chapter 4 welfare economics was considered as a normative theory, whereas in chapter 5 welfare economics is looked upon as a positive theory. An important conclusion of this section is that actors on the supply side of the political process try to achieve their own objectives. Subsequently, in practice the political process will not lead to a welfare optimum, if that optimum is defined without taking political constraints and processes into consideration. Consequently, the question arises if the policy of politicians is really implemented by public institutions. Often this is not or only partly the case. The implementation of policy can also be considered as a political process. This is partly caused by the existence of asymmetric information. Accordingly, the conclusion is that the political process has a lot of influence on the behavior and performance of public institutions although other factors are also relevant. The policy of actors within public institutions have to be examined if the performance of those institutions is to be understood.

In order to address some of these analytical problems, chapter 6 conceptualizes public institutions in terms of internal and external networks. An internal network consists of the actors within the public institution whereas an external network also entails actors from outside the public institution, especially actors within supervisory boards. From this it follows that there will often be a lot of stakeholders influencing processes within public institutions. Appreciating the impact of such forces requires that we develop a theoretic framework which is informed by literature on complex organizations, in addition to literature on neo institutional economics and public choice.

This is done in chapter 7. Property rights theory are used to analytically reduce the number of relevant actors considered in this treatment of networks by limiting analysis to those actors who really can influence the behavior of a network. Actors who own property rights of various kinds are the actors in the best position to achieve their objectives. In this respect it is important to know who has use rights, usufruct rights, and finally who has the authoritative right to change the public institution. Often, several actors possess parts of these bundles of property rights. Organizational theory is useful for helping us map the distribution of power in an institution, and understanding its impact on outcomes.

In chapter 8 the decision making process within this public networks is examined. Questions arise as to how decision making occurs within a network and how this decision making process influences organizational behavior and performance. Several kinds of decision making processes can be distinguished. Variation in the decision making processes is influenced by a number of factors, including the extent to which objectives are shared and the ease with which desired outputs can be measured. The degree to which the owners of the organization can control the organization depends on the character of the decision making process within a network.

Besides the distribution of property rights and the nature of decision making processes, interpersonal relations are also important. In chapter 9 interpersonal relations are described with the help of agency theory. The main question in this respect is how the relations within a network can influence the performance and behavior of the network. In section 9.4. organizational culture is discussed. The conclusion from this section is that shared understanding and values are highly important for explaining organizational performance. However, in this dissertation, the culture of an institution is not dealt with as a separate explanatory factor. It is understood as the result of other factors such as the distribution of property rights, the nature of the decision making process, and the system of interpersonal relationships found in a network. In chapter 10 relationships and culture are further examined using the bureaucracy model of Niskanen. In this chapter the

implications of these kind of models for the behavior of public institutions are examined.

In chapter 11 the transactions within public institution-networks are analyzed using transaction cost economics. Effects of transaction costs on the behavior of public institutions are explored. Furthermore it is studied to what extent this approach can be used in case a network approach is followed.

The approach that was developed in this study makes clear that an institutional analysis should be followed. As Buchanan and Tullock indicate, public institutions function Pareto efficiently, but only in the context of several restrictions. In time different factors including the objectives of the owners and the environment will change. However, often a network only can adapt to these changes within certain limits. In chapter 4 it is indicated that more efficient networks will not come into existence because of for example lack of information on transaction costs of alternative public networks. Therefore in this dissertation an institutional analysis is followed. How can we compare the performance of a network and consider alternative structures that will improve performance?

Several implications follow from this network approach. As mentioned, public enterprises and public institutions in general are more and more considered as redundant. This is why economists, particularly economists skilled in the neo classical tradition, argue for privatization. However, often essential differences between public and private institutions are often neglected. It is obvious that public institutions behave differently from private enterprises. This is reflected in the different objectives of their owners and also in the distinctions with respect to organizational structure and efficiency. But dissimilar behavior may not be a sign of poor performance. Private enterprises are not a suitable measurement of comparison for public institutions, particularly with regard to externalization of costs, or pursuit of all kinds of secondary objectives. This is done in the form of off budget activities. The extent to which public institutions try to achieve such objectives varies considerable and seems only restricted by the creativity of politicians and members of the management board. The degree to which this is possible and the extent to which this actually happens can only be detected by analyzing the conduct and especially the performance of these public institutions. Thus, it appears that the performance of a network can be quite acceptable, although the network operates in a technically inefficient manner. When all objectives are examined, welfare increases seem impossible. Another implication refers to the existence of social networks within public networks. It is possible that attention is focused on efficiency, but that because of decreasing social capital, performance in fact deteriorates. Finally, the effects of all kinds of changes can be analyzed. Conclusions can be drawn with respect to the conduct and the performance of the network.

From this it follows that every network will be different and that the factors that will be most relevant for the explanation of the performance will differ from network to network. Often the performance of one institution can not meaningfully be compared with the conduct of other institutions. As a consequence, to give advice to political owners and to discuss if changes are necessary, specific networks have to be examined.

Therefore, in the empirical part of this dissertation, it is analyzed how the performance of a public network can be determined in practice. In this context it is examined to what extent the links between the different parts of a network, as described in part 2, are really important. In addition it is studied how the different parts of the network can be determined in reality (property rights, transaction costs, principal agent relations etc.). Consequently, several empirical approaches that are used in empirical research are described in more detail. Furthermore it is indicated what the weak and strong points of these ap-

proaches are. In this respect it is also explained why the so called "indicator approach" fails when we want to know how and how well a certain public institution performs. Obviously, this does not mean that this approach can not be used for other purposes. Nevertheless, like the quantitative approach, this approach doesn't give us much insight into the degree to which public networks succeed in reaching their objectives and what these objectives really are. The qualitative approach is scoring much better on these points. This approach indicates clearly how to determine which actor has what kind of property rights and how to assess what kind of principal agent relations exist within a network. Besides, the qualitative approach incorporates transaction costs theory, as the transaction costs of a public institution are part of the opportunity costs. If properly used, this approach gives us correct insight in the performance. To examine to what extent the network approach can be used in reality and if the performance of a public institution can really be determined eight hypotheses are examined. These hypotheses are studied by answering 16 questions. To do this three public institutions are examined. These three institutions have been selected because, given the central questions, they were of special interest. Each of these public institutions was confronted with a far-reaching reorganization. Therefore, it was useful to see to what extent these reorganizations were caused by poor performance.

In these case studies first it is indicated that these three institutions are indeed institutions as defined in chapter 1. This may seem obvious for the "Dutch Rijksmuseum" and for "MEGA Limburg", but it may seem less obvious for the Dutch Tax Agency. As mentioned public institutions are institutions that produce goods and services that can also be produced by private enterprises. The principal difference is that the government chooses to have dominant influence. This is also true for the Tax Agency. In theory, it is possible to privatize the Tax Agency and indeed in some countries taxes are levied by private firms. However, in the Netherlands the government chooses to retain dominant influence. Furthermore, each of these three public institutions were part of a network that consisted of a large number of actors and, as mentioned, each of these networks were confronted with a far-reaching reorganization. To examine if these reorganizations can be explained by the network theory of part 2, the different parts of a network are studied in practice.

How did the Dutch "Rijksmuseum" perform during this period. To assess the performance it was especially important to determine to what extent the objective of the cultural heritage had been realized. Also, it was important to analyze the costs of this level of accomplishment of this objective. It appeared that the objective of maintenance was only reached at a low level. The collection was poorly accommodated. It could not be controlled where and in what quality the art collection was. The collection grew considerably during the period of consideration, but the state of repair was lacking. Not only housing was insufficient, also the objectives of the owners changed. At the end of the eighties, the owners tried to reorganize the Dutch "Rijksmuseum" into a modern and flexible institution. However, it appeared that the museum was not able to adapt to these kind of changes, especially because of laws and department rules. Therefore, the Dutch "Rijksmuseum" was (externally) privatized. Several measures were taken in this respect. The museum, for example, was allowed to determine entry fees itself. Besides, it got it's own budget and also it's own revenues became more important. The extent to which this reorganization of the network will improve performance depends on the extent to which cultural heritage is better served against lower costs. The cultural heritage is a very important objective, as the value of the collection amounts to more than ten billion guilders and is still owned by the government. To realize this objective, control over the inputs has been replaced by control over the output. One of the outputs that is specified in contracts is the objective of maintenance of the art. It appears that the performance

depends largely on the fact that control over the output seems better than control over the input. This is true as the museum, under pressure of the department, has made a considerable effort in making an inventory of the collection. The government is now better able to control the condition of the collection and is better equipped to see to it that the Dutch museum takes care of it in proper way. The same is true for the other objectives.

With respect to MEGA Limburg the largest part of the costs consists of costs of gas and electricity distribution. The "budget" of the public enterprise rent was especially used for pursuing three categories of objectives. Half of the budget was used for charging lower electricity prices, approximately 18% was used for realizing more employment and finally some 30% was used for the other objectives like taking care of a certain and secure delivery of electricity. During the period the objectives shifted. In the seventies, a considerable degree of importance was attached to a certain and continuous delivery. A monopoly structure was deemed necessary, although theoretically, a trade off between competition and reliability and certainty of delivery has been postulated. At the end of the eighties and during the nineties other objectives such as efficiency, low tariffs and serving clients gained importance. Besides, also the European integration had more effects. To achieve these altered objectives, it appeared necessary to change the organization. Will this reorganization improve performance? This depends on the extent to which competition will increase and as a consequence tariffs can be reduced. Also it depends on the extent to which the secondary objectives like employment are reached against lower costs. In addition the objective of certain and continuous delivery must not deteriorate too much.

During the period that the Dutch Tax Agency tried to pursue all kinds of objectives. Obviously, the main objective was to collect taxes for the government. Furthermore, the Tax Agency pursued several secondary objectives. The most important objectives in this respect were the distribution of income, the fair execution of Dutch tax laws and the reduction of welfare losses. These objectives conserve to explain the fact that taxes are collected by the government and not by private enterprises. During the eighties problems arose with respect to the collection of taxes. These problems were partly caused by the changed environment. Compliance for example deteriorated and the number of tax payers increased. The organization of the Tax Agency could not adapt to these changes. Therefore, it was decided to reorganize the Tax Agency. This reorganization of the Tax agency during the beginning of the nineties has improved performance. Tax collecting is realized more efficiently, while the extent to which secondary objectives are realized was acceptable for the owners. The public enterprise rent was reduced. To analyze if it is possible to further improve performance in the future, it has to be determined if taxes can be collected by private enterprises against lower costs. This will probably not be the case, as private enterprises may inflict considerable deadweight losses. Besides the objective of the fair execution of tax laws will deteriorate. A better alternative is to further increase the flexibility of the Tax Agency by transferring additional rights. Also an Independent Public Authority may be an improvement. If this is truly the case depends on the specific conditions that will be part of the law by which the authority is established. In this context it is also important that the regulation with respect to these independent authorities is simplified.

From this dissertation and the eight hypotheses that are examined it can be concluded that the performance of a specific institution can best be analyzed on the basis of a qualitative approach, such as the theory outlined before. On the basis of this approach, it appeared to be possible to determine several parts of a public network in practice. By doing this, insight can be obtained in the functioning of a certain institution. This also connects with

recent developments in this area of research. Several studies of the Dutch court of Audit, for instance, correspond to the qualitative approach. This is also the case for a lot of management scientific research. However, the qualitative approach goes some steps further by not only analyzing effectiveness but also efficiency.

Further, it appeared that during the period of examination, the objectives of all the three institutions changed. This was partly caused by changes in the environment of the public institutions. All three institutions tried to adapt by making small adjustments. After some point, these small changes appeared to be insufficient and further changes proved not possible within the existing structure of the network in consideration. More and more the relevant actors came to the conclusion that the institution was not functioning very well. The changed objectives were not satisfactorily realized with the existing network or the owners realized their objectives against to high a cost. Therefore, ultimately, it was decided to alter the network, often because of political pressure. These changes entailed all parts of the network. Not only the property rights structure was adjusted but accordingly also the information structure, the transactions within the network and the relations were changed. After the reorganization of the network objectives were better reached against lower cost. This can be compared with the approach as described in chapter 2. Given all restrictions networks are Pareto efficient. But when the environment and the objectives change a changed network may perform better. Hence, it is important for economists to analyze how a network can be changed best. As described in paragraph 19.3, the network approach can also be used to guide such a transition in governance structure.

Moreover, using this framework and the corresponding qualitative approach for an analysis of enterprises that are heavily subsidized by the government, for example Fokker and Nedcar, a lot of money can be saved. Often times, public institutions like these enterprises try to achieve objectives like employment, while they operate in competitive markets. It is striking to see that Fokker after going bankrupt was able to realize impressive efficiency gains. By applying this approach it is possible to warn politicians against the possible consequences of their policies of trying to reach secondary objectives with enterprises that operate in competitive markets.

Furthermore, not only public institutions, but also policy processes within the departments and all kinds of new laws and rules like the use of covenants and environmental effect reports (MER) could be analyzed. In that case also the objectives of these instruments, the extent to which they are realized and the costs of this level of accomplishment of objectives should be analyzed. It is interesting to see if better alternatives are available.

What really springs from these case studies to the eye of the impartial observer is that with this framework also private enterprises can be analyzed. Private enterprises more and more try to reach all kinds of objectives different from profit maximization or maximization of the value of the company. Examples of such objectives are the environmental objectives that are growing more important. Of course, several parts of such a network will be more or just less important than in the case of a public network. Consequently, the performance will differ.

In conclusion some improvements in the framework and the corresponding qualitative approach have to be made. These improvements have to do with better quantifying the relative importance and the costs of the various objectives. These problems are not so much characteristics of this kind of research but are mainly caused by the accounting of the government and public institutions. The way of accounting has to be improved. It is very important that public networks are forced to indicate in a financial report what their

objectives are, how well these objectives are realized and what the costs are of this level of objective accomplishment. Finally these costs should be attributed to these objectives. By doing this, the government and ultimately parliament will get much more insight. This will improve the control by the relevant actors. Besides, parliament will be more able to weigh priorities. Of course, public institutions often will not be interested in doing this. Therefore, this financial report should at least be subjected to audit control.