

# Prestatie-onderzoek naar Nederlandse overheidsbedrijven : case-studies naar de Staatsmijnen, de NV Nederlandse Spoorwegen en de Nederlandse Centrale Organisatie voor toegepast-natuurwetenschappelijk onderzoek

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## Summary

In the Netherlands the central government established the sector of public enterprise at the beginning of this century. Untransparency and absence of a consistent policy with regard to public enterprises have been the main characteristics ever since. Before 1940 a tendency existed to establish corporate bodies under private law, mainly foundations. These bodies spent public resources without adequate control by the Parliament and the General Accounting Office.

From 1945 Dutch cabinets increased their number of shareholdings in limited liability companies. Parliament and the General Accounting Office were not enabled to control the annual budgets of these companies. In 1951 Labour Minister of Finance P. Lieftinck even rejected the public parliamentary review of the policies implemented by government-owned limited liability companies. Parliament and the General Accounting Office tried to obtain more information about the performance of public enterprises. The General Accounting Office published some accounting data in the reports on 1950 and 1960. Since 1966 the Government audit office has been publishing an annual survey of public enterprises.

Article 90 of the EEC Treaty enabled the European Commission to adopt directives and decisions in order to increase the transparency of the relationships between governments and their public enterprises. In 1980 she obliged the member states to disclose more information about the acknowledgement and the spending of public financial resources on behalf of their public enterprises. The Commission introduced some changes in this obligation in 1985. Her policy failed and for this reason a new system of information disclosure was introduced within the framework of the existing EC regulation in 1991.

The discipline of public finance distinguishes two perspectives on public revenues: the entrepreneurial state and the fiscal state. In the Netherlands the central government performs both roles. Government-owned limited liability companies contributed about 0,6 percent of the total government revenues in 1970. The entrepreneurial state was an important employer in total public employment. The state company for Post, Telex and Telephone and the Dutch State Mines (abbreviated as DSM) determined 31,6 percent of the total employment at the central government level. W. Keyser and R. Windle estimated that the employment by public enterprises in total employment (excluding civil servants) was about 6,6 percent in 1970.

The untransparency facilitated political owners to use public enterprises as instruments to achieve objectives, including the objectives stated in the articles of association and the relevant legislation. Case-studies enable the identification of these objectives. This research project conducted case-studies about the Dutch State Mines, the Dutch Railroad Corporation and the Organization for Applied Scientific Research (abbreviated as TNO), because they operate in the primary, secondary and tertiary sector of the Dutch

economy. The project examined the following research question:

Which objectives, besides a sufficient achievement of the stated objectives, did the political owners of the Dutch State Mines, the Dutch Railroad Corporation and the Organization for Applied Scientific Research reveal from their establishment upto 1970?

The case-studies have been conducted from the theoretical perspectives of property rights and public choice.

Scientific policy evaluation emphasizes the application of combinations of quantitative and qualitative approaches. These can be applied separately to different questions, derived from the main research question. Another application consists in answering the same research question with a quantitative and a qualitative research approach.

Mainly Belgian economists contribute to the development of a quantitative analysis of the performance of public enterprises. They obtain the public enterprise objectives from general economic policy and restrict their research to measuring technical efficiency. They derive a production function with a regression analysis and construct a production possibility frontier. The expression of the production below the production possibility frontier as a percentage of the points on this frontier measures technical efficiency.

In this research project one can conduct the qualitative performance analysis in combination with the quantitative analysis. The qualitative performance analysis has its origin in the theory of property rights as developed by A. Alchian and H. Demsetz, and elaborated by J.G. Backhaus. This analysis consists of three phases, namely: a structure analysis, an analysis of the revealed objectives and an analysis of the interaction between the public enterprise explanation of its performance and the reactions of the principals to this explanation.

### Structure analysis

The structure analysis examines the distribution of the public property rights. These rights constitute a governance structure of the public enterprise. The analysis focuses on the right:

- (1) to control the purchases and to monitor the performance of the production factors,
- (2) to control the output performance and to monitor the externalities,
- (3) to monitor the production process,
- (4) to monitor the composition of the team of producers, and
- (5) to claim profits.

The examination of the allocation of these rights results in the identification of several categories of agents, who participate in the governance structure of the public enterprise. The owners of the public property rights are able to influence the decision making process. To put it

differently behind the identification of the agents involved exists an extended body of economic theory.

The right to control the purchases relates to the theory of bilateral monopoly, and the pricing and investment theory. Under circumstances of a bilateral monopoly the management board and the single national ancillary company negotiate about the price. Loyalty to ministerial policies or purchase obligations result in improper burdens for the public enterprise if the negotiated prices differ from the prices set by ancillary companies abroad. The relationship between the Dutch Railroad Corporation and the ancillary company Werkspoor-Utrecht is an example. Purchasing results from a decision to maintain or extend the existing capacity. Economic analysis shows that the optimal pricing and investment policy requires the equality of price, short run and long run marginal costs. Empirically marginal costs are approached by the ratio of annual cost to volume differences. This approach does not deserve any recommendation, because the available data are mostly long term data.

Control of output performance concerns the presence of incentive schemes in public enterprises. Incentive schemes are only effective if the individual contributions to the production can be measured. Measurement of the wrong productivity indicators in public enterprises might cause deficits and urge the government to act as the lender of the last resort.

Externalities involve the positive and negative side effects of public enterprise activities. Considerations about the positive side effects of the public production of goods and services belong to the reasons to establish public enterprises. The positive side effects are social benefits, which are not included in the measurement of public enterprise profitability. The social benefits are difficult to measure. A public enterprise like the Organization TNO contributes with technological innovations to the improvement of social welfare. The contribution of the innovations of a single public enterprise in terms of gross national product is difficult to observe. Negative externalities, for instance environmental pollution, constitute an embarrassment to a cabinet and cause social costs. These costs are not included in the pricing policies of public enterprises. In economic theory negative externalities are controlled by regulation, taxation and the transfer of property rights (the right to pollute).

The right to monitor the composition of the team of producers is affiliated with the subject of appointments. In a two-party system a change in cabinet results in an extension of personnel at the upper decision levels of public enterprises. It is a remuneration for previous political services to the newly governing party. This remuneration means a stable position and a guaranteed stream of revenues. The extension of personnel at the upper level might cause a hidden unemployment.

In the Dutch consociational democracy, characterized by a heterogeneous political culture and cartel like behaviour of elites, this phenomenon of remuneration for rendered services

does not exist. The social democratic member of parliament G.F. Lindemeijer expressed the view that election results should not play a role in the occupation of the main positions within public enterprises under public law. Hidden unemployment was not unfamiliar to Dutch public enterprise. For instance the Dutch Railroad Corporation had a surplus of 106 academics in 1969 (See chapter 4: table 4.3).

The claiming of profits involves the current theories on rent seeking and public enterprise rents. Profits result from the productive allocation of the factors of production. Governments claim a part of the profits with dividends. In exceptional cases management boards obtained the right to claim bonuses/royalties, which was for instance the case for the management board of the Dutch State Mines.

Trade unions and external interest groups try to obtain a share in the profits by wasting their factors of production. They will waste their factors of production until the revenues forgone exceed the benefits to be had from the public enterprise. This behaviour is known as rent seeking. The existence of rent seeking deprives a public enterprise of its profits. The profits forgone constitute the public enterprise rents. These can be estimated by using the rate of return of government perpetuities as an indicator of profitability. The transfer of rents from the public enterprise to the rent seekers is untransparent, because of the negative value to society.

The structure analysis in the case studies shows no ministerial interference with the daily routine of the management board. In this respect the governance structure does not differ with the British model of public enterprise, mentioned after H. Morrison, the Labour minister of Transport from 1929 up to 1931. He developed a governance structure of public enterprise at arm's-length distance of the cabinet.

#### Analyzing the revealed objectives

Research on the objectives of public enterprises is still in an initial phase. Y. Aharoni, M. Haririan and V.V. Ramanadham made important contributions to the research on public enterprise objectives. These leading authors in the discipline agree that the efforts of public enterprises to achieve non-commercial objectives entail costs.

Aharoni proposes a contingency approach to study public enterprise. This approach emphasizes the influence of external variables on the performance of a public enterprise, for instance external coalitions and market structure. The objectives of these enterprises are the result of a conflict among stakeholders. The revealed objectives are rarely identical with the formal objectives.

According to Haririan performance evaluations of public enterprises should be based on their failure or success in achieving predetermined objectives. For this purpose a Goal Attainment Model should be developed, which determines the variation between target objectives and attained objectives. The objectives have to be ranked and assigned weights in accordance with the priorities. An adjustment factor is used

to reflect the negative impact of conflicting objectives.

Ramanadham combines analysis with illustrative references in his approach to public enterprise performance. He distinguishes official and non-commercial objectives. The latter contain economic and non-economic objectives, which have their origin outside the enterprise. If a cabinet wants to pursue non-commercial objectives it has to specify these objectives in managerially clear terms and to quantify the financial impacts on the enterprise.

Although these authors have their own approaches and taxonomies, they neither attempt to derive objectives from archival documents or behaviour nor measure the related opportunity costs. The qualitative performance analysis clearly distinguishes itself from these authors by collecting revealed objectives from archival documents and parliamentary proceedings. Ministers reveal their objectives to the boards of public enterprises amongst others in policy papers. The revealed objectives belong to the discretionary leeway of the ministers. In contrary management boards of public enterprises try to achieve autonomy in order to protect the profitability and to be able to achieve their own objectives. They also reveal their objectives in policy documents and financial reports. In this research project the revealed objectives are compared with the objectives obtained by the structure analysis. The objectives stated in the articles of association and the relevant legislation belong to the conditions to be fulfilled sufficiently before any other objective can be achieved.

The documents from the examined public enterprises and the relevant proceedings reveal a limited number of ministerial objectives. The management board revealed more objectives than the ministers (See chapter 6: table 6.1). These objectives do not have any indicators to measure the degree of performance and do not contain a time dimension.

Public enterprises are public investments, which need a profitability at least equal to the rate of return on government perpetuities. Otherwise the government should not invest in this type of enterprise. The public enterprise rents, the profits forgone, are the difference between the rate of return on government perpetuities and the profitability of the enterprise. This rent indicates the existence of discretionary leeway or autonomy. Discretionary leeway means that the minister reveals his objectives to the public enterprise, while autonomy enables the management board to pursue its own objectives. A public enterprise with a profitability exceeding the rate of return on government perpetuities performs a fiscal role. The Dutch State Mines performed a fiscal role from 1965 up to 1970. The profitability of the Dutch State Mines was the result of cross subsidizations within this enterprise. The Dutch Railroad Corporation and the Organization TNO suffered public enterprise rents from 1965 upto 1970 (See chapter 6: table 6.2).

The market structure of the Dutch State Mines and the Netherlands Railroad Corporation offers the possibility to conduct a comparative quantitative performance analysis.

The quantitative performance analysis of the Dutch State Mines shows a technical efficiency for private mining companies, which exceeds the technical efficiency of the Dutch State Mines from 1951 upto 1960. They achieved the highest degree of technical efficiency from 1961 upto 1965 (See chapter 3: table 3.3). The international comparative analysis of fourteen European railroad companies demonstrates that the Dutch Railroad Corporation attained the highest degree of technical efficiency in 1965 and 1970 (See chapter 4: table 4.5). This degree of technical efficiency occurred with public enterprise rents.

A quantitative analysis of the Organization TNO was not possible because of the limited availability of relevant data and the absence of comparable Dutch research organizations. A solution would be an international comparative performance analysis, which is beyond the possibilities of this research project.

Public enterprises can be confronted with combinations of profits forgone and technical inefficiency. The public enterprise rents result from the revealed objectives, which cause externalities. It is only possible to determine the public production function of private goods. Some of these factors of production are involved in the production externalities. A production function of externalities can not be measured, because of the characteristics of nonexcludability and nonrivalry. Under these circumstances two options exist. The first option concerns the reduction of the number of factors of production (improvement of technical efficiency). The second option entails the elimination of rents by abolishing for instance wages exceeding wages in comparable industries, social prerogatives, expensive purchases and subsidization of charities.

The co-existence of a high degree of technical efficiency and public enterprise rents within the Dutch Railroad Corporation seems to conflict with the theoretical expectation of public enterprise rents and technical inefficiency. A technical efficiency close to the production possibility frontier indicates a sufficient attempt to achieve the objectives stated in the articles of association. A re-organization of the allocation of the factors of production might be hardly possible. The only possibility to reduce public enterprise rents in this company is the elimination of rent seeking.

#### Privatization.

In the fifties and sixties privatization was interwoven with a debate about asset formation in the Netherlands. One of the objectives of the policy of asset formation was the distribution of shares among the population, particularly the employees in the companies involved. Privatization terminated the ministerial discretionary leeway and the autonomy of the management board.

The intention of the policy of asset formation shows a similarity with the privatization policies of the Thatcher cabinets in Great Britain. These cabinets also wanted to

distribute shares among small investors. The distribution of shares meant a transfer from the taxpayers to the small shareholders. This policy was quite successful in Great Britain, because the number of shareholders doubled (17 percent) from 1983 upto 1986. The Dutch policy of asset formation did not increase the number of small investors by privatizing public enterprises. The Dutch government even increased her number of shareholdings in companies with limited liability from 24 in 1950 upto 45 in 1990.

The current policy of privatization intends to improve public administration, to strengthen market competition and to raise revenues for the government. To implement this policy cabinets need a clear criterion to identify public enterprises, which should be considered for privatization. The rate of return on government perpetuities is such a criterion. Public enterprises failing to achieve a profitability above this rate of return should be considered for privatization. In 1983 the German Sachverständigenrat zur Begutachtung der Gesamtwirtschaftlichen Lage proposed a similar criterion. According to this principle the Dutch Railroad Corporation and the Organization TNO should be considered for privatization. These public enterprises can only be sold if investors expect to be able to obtain future profits by a management turnaround. The Dutch State Mines should not be privatized but continue to raise revenues for the government. In 1988 Parliament allowed the Christian Liberal cabinet Lubbers II to privatize this enterprise. The Labour Party doubted whether the advantages of selling the shares would exceed the loss of dividend and the future increase in the value of the firm.

Performance and the reactions of the principals.

The importance of the objectives appears from the analysis of the interaction between the explanation given by the public enterprise of its performance and the reactions of the principals to this explanation. This analysis comprises the appointments in the supervisory and management boards, the explicit policy changes and shifts in objectives between different institutions, the implicit policy changes, the discrepancies between language and behaviour, and the activities not at all discussed but continued.

Walters and Monsen dispute that the inefficient performance of public enterprise means incompetent management. Successful managers like E. Mattei (ENI), P. Dreyfus (Renault) and D. Ezra (National Coal Board) had pragmatic and effective working relationships with the government. In their opinion members of management boards of public enterprises have to distinguish between lobbying the government and criticizing the government. Managers who did not appreciate this distinction lost their jobs.

Loyalty to cabinet policies is a condition for appointments in the boards of public enterprises and the monitoring bodies. External appointments and loyalty might result in conflicts with the other members of the board. This type of conflict happened after the external appointment of professor J. Goudriaan (a former Philips manager and an outspoken member of

the Labour Party from 1912 upto 1933) as a member of the management board of the Dutch Railroad Corporation by the Christian-Democratic cabinet-Colijn IV in 1938. His loyalty to the ministerial policies caused a confrontation with a coalition of board members, supervisory directors and civil servants. He voluntarily resigned in 1945.

Explicit policy changes and shifts between different organizations reflect ministerial discontent with the performance of the public enterprise. For this purpose new organizations are even established. This was the case with the establishment of the National Council of Agricultural Research, which replaced the Agricultural Organization TNO in 1957. Implicit policy changes can be discovered by examining financial administrations. Changes in expenditures might reveal implicit policy changes.

The activities, not discussed at all but continued, encompass advertising, publicity expenditures, and guarantees. These activities are instruments to achieve either revealed or stated public enterprise objectives.

Empirical research hardly exists about advertising and publicity expenditures by public enterprises. These enterprises can direct their advertising and publicity policies toward their clientele. Advertising emphasizes the meritory aspects of their consumption goods and services. Public enterprise advertising and publicity expenditures influence the consumers' preferences and demands. From a public choice perspective advertising and publicity expenditures belong to the instruments of cabinets to convince the electorate about the performance of public enterprises in order to reassure their re-election. The case-study about the Dutch Railroad Corporation shows a significant relationship between publicity expenditures and sales, and publicity expenditures and revenues from passenger travel (See chapter 4: table 4.21).

Governments apply guarantees as a policy instrument to achieve economic or political objectives. However guarantees can be used as off-budget expenditures to be financed with private loans. Guarantees are given to private industries or public enterprises to continue their production and to decrease the cost of capital.

The reduction of the cost of capital provides a gain for the receiver. This guarantee becomes an economic rent if the entrepreneurial precaution is reduced. Guarantees have the character of an indirect subsidy and might stimulate high risk activities. The costs of rent seeking are at the expense of the public budget or at the expense of the customers, because of an increase of the interest rate as a result of crowding out.

An alternative method to central government guarantees is the use of public enterprise guarantees. Governmental guarantees to public enterprises and public enterprise guarantees to private enterprises results in a system of two-tier monitoring of rent seeking. It is efficient for a cabinet to have the guarantees distributed by public enterprises, because the monitoring costs for these enterprises are lower than for the government. The civil service lacks the

specialized knowledge and can not monitor every guarantee, so the danger exists that more guarantees are requested than necessary. The managers of public enterprises are able to monitor the guarantees by participating in the boards of subsidiaries and private enterprises. Managers of public enterprises have an incentive to monitor guarantees and to minimize rent seeking behaviour, because these might endanger the liquidity position of the public enterprise. The liquidity position is an important measure to determine whether a public enterprise can meet its guarantee-obligations, in case of deficits or prohibitions to borrow from the capital market.

The liquidity position of the Dutch State Mines enabled this company to meet its guarantee-obligations if necessary, with the exception of 1965 and 1966. The Dutch Railroad Corporation faced a negative liquidity position from 1960 up to 1970. This railroad company was not able to meet the guarantee-obligations in case of a financial failure of a guarantee receiving company (See chapter 4: figures 4.4 and 4.5).

Public enterprise guarantees for certain sectors of the economy have the character of a subsidization and might cause positive externalities, which have to be determined. The benefits of the positive externalities have to be weighted with the necessary costs, related with the obligation to meet the guarantees. The liquidity deficit affects either the pricing policies or the fiscal burden for the taxpayer.

#### Scientific policy advise

Scientific policy advise contributes to a re-appraisal of the fiscal role of the public enterprise, if an empirical theory about this type of enterprise is available. Conducting quantitative and qualitative performance analyses results in the collection of information about the daily management of public enterprises in mixed economies, which extends the existing economic literature.

Scientific policy advise enables the development of a new governance structure for public enterprises in the Netherlands. The main elements of this governance structure are monitoring and accountability in order to reduce public enterprise rents.

The case-studies showed the existence of public enterprise rents with the Dutch Railroad Corporation and the Organization TNO. Both operated at arm's-length distance of the cabinet and had bodies for special interest representation. The Dutch State Mines operated at an equal distance from the cabinet, but did not suffer public enterprise rents. One of the possible explanations for this fact is the application of personnel and management incentive schemes related to profitability.

In 1961 the above mentioned Goudriaan described the characteristics of an alternative governance structure for public enterprises. His proposed governance structure broke with the Morrisonian element of arm's-length control in Dutch public enterprise. He proposed centralized monitoring, because the existing governance structure (a three layer-structure:

minister-ministry-board of supervisory directors) entailed the danger of a coalition between members of the management board, supervisory directors and civil servants. This coalition endangers the loyalty to cabinet policies, which is irreconcilable with parliamentary democracy.

Goudriaan advocated centralization within the supervisory or monitoring boards. The minister should become the chairman of the board. His top senior civil servant participates officially as a secretary. Now conflicting points of view are solved within one single body. The minister is accountable about the performance of the public enterprise to Parliament.

The performance analysis conducted in this research project about Dutch public enterprises shows similarities with Aharoni's proposal for a comprehensive audit system. This type of audit pays attention to objectives and the costs related with their achievement. According to Aharoni the objectives of public enterprises could be derived from the decisions taken by the board of managers. The public accountant evaluates the performance and calculates the costs of the alternatives to achieve the objectives. The traditional audit departs from verifying compliance with certain accounting principles.

A centralized governance structure with a comprehensive audit system abolishes the existing untransparency of the sector of public enterprise. Further research about the distribution and application of public property rights in public enterprise is conducive to the development of an efficient governance structure. Management boards of public enterprises should admit the importance and the results of quantitative and qualitative performance analyses.